AUTOMOTIVE INDUSTRIES

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12 annoyance points. ELIMINATED!

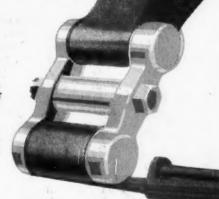
SHOOTING grease into shackles banished forever—nerve-rasping squeaks and rattles gone for good—shackle adjustments never needed when Fafnir Ball Bearing Spring Shackles are on a car. No deterioration—no replacements.

Shock absorbers work better with Fafnir Ball Bearing Spring Shackles because of uniform free spring action, and real riding comfort is provided. All these are strong arguments for clinching car sales.

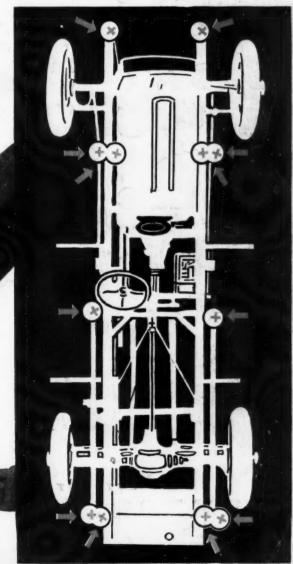
Shackle Division
Fafnir Bearing Co., New Britain, Conn.
Detroit: 120 Madison Ave.

European Agent: Benjamin Whittaker, Ltd. Aldwych House, London, W. C. 2, England

BALL BEARING SPRING SHACKLE



FAFNIR



Waukesha-Powered Walter Snow Fighter Turning Over Four-Foot Drift



a-749-LC

Snow Fighting with Gasoline In our northern border states snow fighting is a terrifying problem to operating officials. Bus transportation must operate both summer and winter. The Colonial Coach Lines operate over 750 miles of road in New York State. During the winter their snow fighters keep 350 miles of road open, and they do it even though drifts from five to twelve feet deep are encountered.

In the illustration above a Walter Snow Fighter is shown plowing through four-foot snow drifts at twenty miles an hour. Such speed accounts for the unusual daily mileage obtained by these plows. To do this with their four-wheel drive requires a powerful, reliable engine that must run in blizzard weather for days without a stop. Waukesha "Ricardo Head" heavy-duty engines have a reputation for unrivalled reliability and economy as well as power.

A-806-LC

AUTOMOTIVE EQUIPMENT DIVISION

WAUKESHA MOTOR COMPANY

Waukesha Eastern Sales Offices

Eight W. 40th Street

Wisconsin
New York City

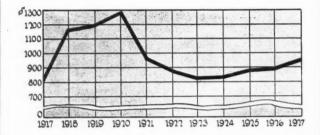
Exclusive Builders of Heavy Duty Automotive Type Engines for Over Twenty Years



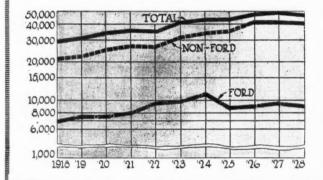


Prospects Bright for Year as Restraint Business in 1927

Average Retail Price of Cars



Ford and Non-Ford Dealers



Aviation Data—1927

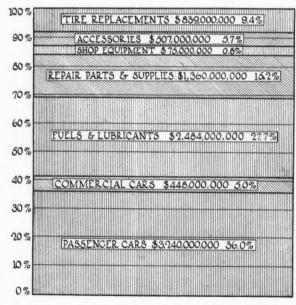
Number of air transport routes—	
June 30, 1927	22
Route miles in operation—	
June 30, 1927	8,396
Scheduled flying first six months 1927	
Number of miles flown	642,364
Number passengers carried	1,891
Mail carried—pounds	621,236
Express carried—pounds1,	045,222
Miscellaneous flying of airway operators	
first 6 months	
Number of miles flown	362,249
Passengers carried	8,305
Express carried—pounds	1,950
Trips completed on civil airways first	
6 months	4,587
Trips scheduled	5,272
Per cent completed	87
Miles of lighted airways June 30, 1927	4,121
Additional miles to be lighted by June	
30, 1928	3,398

LTHOUGH a considerable restraint was placed upon the general automotive business during because of the Ford situation, most automotive manufacturers had a profitable year.

With this restraint now removed, with new car and truck models offering greater values than ever before, with more effective marketing campaigns under way, and with continued prosperity throughout this country and improving conditions abroad, 1928 should prove a banner year.

More cars and trucks are likely to be sold during 1928 than ever before and for larger profits, and this, of course, means increased business and

Estimated Retail Sales of Automotive Products—1928



Retail sales of automotive products during 1928 may reach the total of \$8,953,000,000, nearly one billion more than in 1927

of the Industry

Greatest Automotive Placed on General is Removed

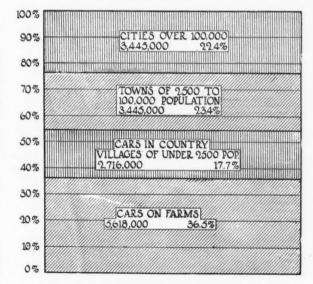
profits for makers of parts, accessories, shop equipment, bodies and all the other component units of the automotive industry.

The value of retail sales for 1928 is expected to increase considerably over that of any previous year. The replacement market for both cars and trucks is growing steadily, assuring an everincreasing, easily-sold market for new vehicles.

Dealers are plentiful and, with the assistance of the factories, are constantly increasing in business ability. The aircraft business is growing apace.

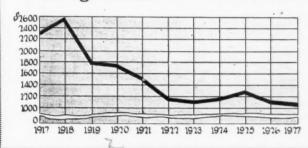
Campaigns being waged by various agencies are helping to remedy the condition of under-equipment present in

Motor Vehicle Distribution by Town Sizes

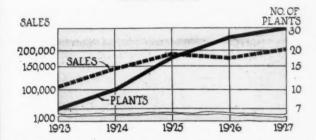


The value of the small town market is shown by this chart. Over half the cars in use in the country are operated by farmers or dwellers in villages of less than 2500 population

Average Retail Price of Trucks



Foreign Assembly Plants and Sales



Passenger Cars of Varying Ages in Use in U. S.

Age Jan. 1	Year Car Was Made	Production (Cars Only)	Per Cent Still in Use	Number Remaining in Use at Begin- ning of 1928
0	1928	,	100.00%	
1/2	1927	3,000,000	, 99.78	2,993,400
11/2	1926	3,527,000	97.73	3,446,940
21/2	1925	3,452,000	93.33	3,221,750
31/2	1924	2,995,000	86.58	2,593,070
41/2	1923	3,448.000	77.66	2,677,720
$5\frac{1}{2}$	1922	2,253,000	66.99	1,609,295
$6\frac{1}{2}$	1921	1,427,000	55.31	789,275
$7\frac{1}{2}$	1920	1,657,000	43.31	717,650
$8\frac{1}{2}$	1919	1,592,000	31.93	508,325
$9\frac{1}{2}$	1918	874,000	21.96	181,190
$10\frac{1}{2}$	1917	1,677,000	13.95	233,930
$11\frac{1}{2}$	1916	1,471,000	8.05	118,415
$12\frac{1}{2}$	1915	795,000	4.18	33,230
$13\frac{1}{2}$	1914	516,000	1.92	9,910
$14\frac{1}{2}$	1913	438,000	0.76	3,330
$15\frac{1}{2}$	1912	356,000	0.255	910
161/2	1911	199,000	0.071	140
$17\frac{1}{2}$	1910	181,000	0.016	30
$18\frac{1}{2}$	1909	129,000	0.002	3
$19\frac{1}{2}$	1908	64,000	0.000	0
	-			

Total cars produced for domestic sale since 1908
30.051.000

Total cars in use at end of 1927 19,138,513



On the Industry's Highway



New Shop Equipment Market

(From Motor World Wholesale)

		ACTUAL		RECOMMENDED			
	Jobs per Tool per Month	Tools per shop	Tools per 100,000 registra- tions.	Jobs per Tool per Month	Tools per shop	Tools per 100,000 Registra-	
1- Portable Electric Drills	148	1.9	622	103	2.7	832	
2- Garage Jacks	85	3.3	1080	80	3.4	1100	
3- Mheel Pullers	53	5.2	1700 ,	45	6.4	2100	
4- Connecting Rod Aligners	345	0.8	262	250	1.1	360	
5-Cylinder Reconditioning Tools	265	1.0	327	230	1.2	390	
6- Valve Refacers	247	0.8	360	230	1.2	390	
7- Battery Charging Equipment	319	0.9	295	275	1.0	330	
8- Spray Painting Equipment	585	0.5	164	275	1.0	330	
9- Wrecking Cranes	496	0.6	192	230	1.2	385	
10- Grinding Wheels	218	1.3	426	130	2.1	690	
11- Cranes and Hoists	184	1.5	492	125	2.2	720	
12- Melding Equipment	416	0.7	229	275	1.0	330	
13- Brake Relining Equipment	354	0.8	262	250	1.1	360	
14- Arbor Presses	357	0.8	262	275	1.0	330	

Aircraft Production and Exports

1919	Prod.	Commer- cial (1)	Army 409	Navy 273	Others 13	Ex- pert 44
1920	(2)	(2)	215	42	7	65
1921	302	(1)	336	53	0	48
1922	(2)	(2)	175	39	0	37
1923	587	314	51	175	8	48
1924	(2)	(2)	60	76	1	59
1925	789	305	199	213	2	80
1926	1,336	958	112	163	53	50
1927	2,363	1,650	289	364		60

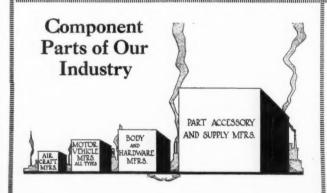
- (1) The consumption evidently exceeds production.
- (2) Census taken only biennially. Special census in 1926.

many repair shops and garages, which means more business for makers of such material.

Despite the increasing number of accessories with which 1928 cars will be factory-equipped,

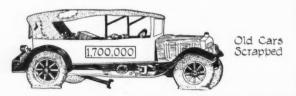
there still remains a tremendous secondary market for this year's production.

All things considered, there appears to be no good reason why 1928 should not be a very good year



New Cars Sold and Old Cars Scrapped—1927









On the Industry's Highway



Rubber Production and Consumption

1924	1925	1926	1927
734,845	888,478	925,878	877,944
23.7	48.4	54.6	39.5
563,723	665,249	630,909	630,000
\$509.416	\$009 GE0	90 <i>00</i> 705	2000 000
	734,845 23.7 563,723	734,845 888,478 23.7 48.4 563,723 665,249	734,845 888,478 925,878 23.7 48.4 54.6

for all those automotive concerns which have entered it with a carefully engineered design and thoroughly sound manufacturing and marketing policies.

In connection with the charts on preceding pages, showing average retail prices of cars and of trucks, it may be advisable to explain that the prices here shown are the average prices paid by the public for its motor vehicles and are not averages of list prices quoted by manufacturers.



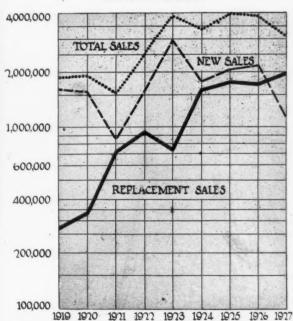
Secondary Market for Accessories—Non-Ford

Based on 1928 factory equipment and 1927 output of 28 makes producing 98.5 per cent of total non-Ford production. 1928 sales quota based on domestic sales estimate of 2,700,000 non-Ford cars.

Accessory	Per Cent Factory Equipped	Per Cent Secondary Market	Estimated Sales Possibilities in 1928 Production
Spare Wheel	11.6	88.4	2,390,000
Front Bumper	19.8	80.2	2,160,000
Rear Bumper	19.7	80.3	2,165,000
Shock Absorbers	39.6	60.4	1,630,000
Trunk	2.1	97.9	2,640,000
Trunk Rack	0.3	99.7	2,690,000
Spare Tire	1.3	98.7	2,670,000
Tire Lock		91.6	2,470,000
Heat Indicator	36.7	63.3	1,710,000
Dash Gas Gage	56.0	44.0	1,190,000
Car Heater	2.1	97.9	2,640,000
Cigar Lighter	4.8	95.2	2,570,000
Spotlight		99.3	2,680,000
Vanity Set		90.6	1,960,0001
Smoking Set		90.4	1,950,0001
Windshield Wings	9.6	90.4	1,488,000°
Clock	22.0	88.0	2,380,000
Tire Cover	0.3	99.7	2,690,000
Step Plates	2.8	97.2	2,620,000
Trouble Light	1.5	98.5	2,660,000
Power Pump	0.9	99.1	2,670,000
Parking Lights		66.3	1,760,000
1 Closed cars on	V.		

¹ Closed cars only. ² Open cars only.

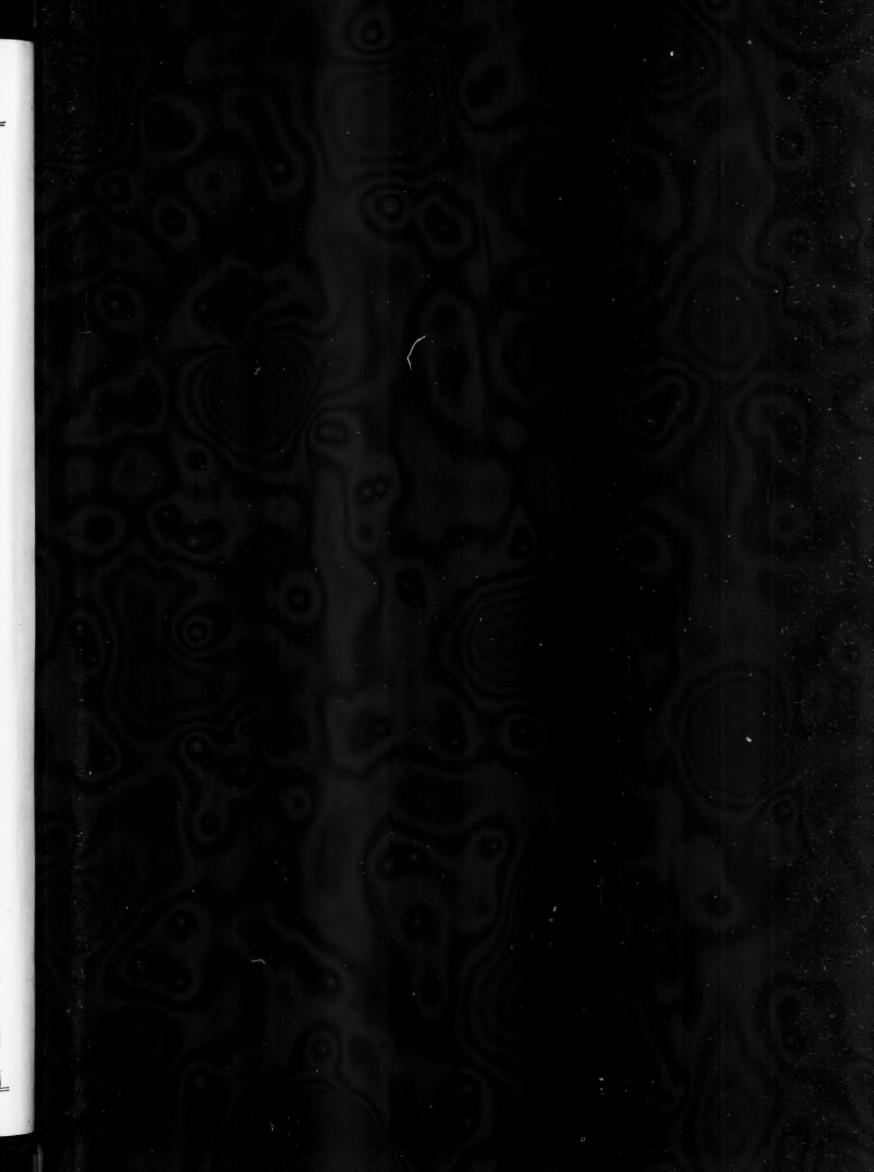
Replacement Sales—Cars and Trucks



NAME OF COMPANY	Securities Outstanding Jan. 1, 1928	Present Annual Dividend Fer Share	Price	rket Jan. 1 prox.)	of Entir	Price e Comp. 00 omitted)	Total Current Assets as of Sept. 30,	Ratio Current Assets to Current Liabilities		Net Income After Depreciation, Interest and Taxes Calendar Years	Commen	of Co	tations ommon itock endar ear
			1928	1927	1928	1927	1927	as of Sept. 30, 1927	Year	Total	Per	High Low	
Auburn Automobile Co.	\$1,100,000 Notes 92,171 Shares	\$4.00	\$120	\$69	\$12,062	\$7,360	\$6,341,012 May 31, '27	4.8 to 1 May 31, '27	1927 1926 1925	\$865,869 (6mo.)* \$943,262 (11mo.) \$755,585	\$9.39 \$11.1 \$12.42	123½ 73 53	69 413% 40
Chandler-Cleveland Meters Corp.	350,000 Shs. Pfd. \$4 280,000 Shs. Common	None None	\$16 \$5½	\$22 \$8½	\$7,140	\$10,080	\$5,706,684 Dec. 31, '26	2.2 to 1 Dec. 31, '26	1927 1926 1925	\$845,170 (9mo.) \$401,330 \$2,470,611 (11mo.)	\$0.55 Nil \$3.82	14 26	41/6 81/2
Chrysler Corp.	\$1,431,000 Bonds 215,198 Shs. Pfd. \$8 2,712,080 Shs. Com.	\$8.00 \$3.00	\$115 \$63	\$105 \$43	\$197,000	\$140,300	\$55,596,000	4.0 to 1	1927 1926 1925	\$16,221,896 (9mo.) \$15,448,587 \$17,126,136	\$5.52 \$4.77 \$5.67	63½ 54½ 253	
Dodge Bros., Inc.	\$63,355,500 Debs. 6% 850,000 Shs. Pfd. \$7 2,435,024 Shs. Com.	\$7.00 None	\$74 \$23	\$82 \$25	\$176,000	\$190,000	\$42,914,642	2.9 to 1	1927 1926 1925	\$7,649,119 (9mo.) \$21,591,920 \$13,746,657	\$1.33 \$6.46 \$4.04	27½ 47¼ 48¾	13¼ 21¼ 21¾ 21¾
Durant Motors, Inc.	2,036,030 Shares	None	\$10	\$8	\$20,360	\$16,280	Not Available	Not Available	1927 1926 1925	Not Available		147/8 147/8 21	53/4 31/2 97/8
Ford Motor Co. of Canada, Ltd.	70,000 Shares	\$15.00 May 28, '27	[\$564	\$550	\$39,200	\$38,200	\$19,391,015 Dec. 31, '26	13.0 to 1 Dec. 31, '26	1927 1926 1925	\$5,341,177 \$6,132,327	\$76.30 \$87.60	725 655 690	393 326 462
Franklin (H. H.) Mfg. Co.	\$6,126,750 7% Pfd. 299,408 Shs. Com.	\$7.00 None	\$16	\$20	\$10,000	\$11,500	\$6,397,039 Dec. 31, '26	10.0 to 1 Dec. 31, '26	1927 1926 1925	(Yr. ended July 31) \$72,381 \$1,983,103	Nil \$4.35	197/8 33 43	1214 16 1614
Gardner Meter Co.	155,000 Shares	None	\$14	\$ 8	\$2,565	\$1,240	\$984,453	8.4 to 1	1927 1926 1925	\$99,292 \$11,927d \$2,098	\$0.64 Nil \$0.01	15½ 9¾ 16¼	614 534 418
General Motors Corp.	\$134,916,000 7% Pfd. 17,400,000 Shs. Com.	\$7.00 \$5.00 and extras	\$125 \$138	\$121	\$2,500	\$1,473	\$418,624,360	3.1 to 1	1927 1926 1925	\$193,758,302 (9mo.) \$176,698,743 \$107,070,532	\$10.70 \$19.36 \$19.15	141 225 ³ ⁄ ₄ 149 ³ ⁄ ₄	113¼ 113¼ 645%
Graham-Paige Meters Co.	\$1,900,600 7% Pfd. \$3,886,200 2nd 7% Pfd. 736,956 Shs. Com.	\$7.00 \$7.00 None	\$18		\$18,730	\$9,000	\$8,657,536	3.1 to 1	1927 1926 1925	\$1,796,103(d.)(9mo.) \$500,206 \$2,437,866	Nil \$0.49 \$3.04	183/4 281/2 33	7% 9 17%
Hudson Motor Car Co.	1,596,660 Shares	\$5.00	\$83	\$54	\$129,000	\$88,000	\$21,561,395 Dec. 31, '26	2.9 to 1 Dec. 31, '26	1927 1926 1925	\$14,042,536 (9mo.) \$5,372,874 Yr. end \$21,378,504 Nov. 30	\$8.79 \$3.66 \$16.07	91½ 123¼ 139½	48½ 40¾ 33¾
Hupp Motor Car Corp.	1,005,190 Shares	\$1.40	\$34	\$22	\$34,150	\$22,100	\$16,072,000	4.3 to 1	1927 1926 1925	\$1,587,902 (9mo.) \$3,507,629 \$2,916,939	\$1.58 \$3.49 \$3.19	361/4 283/8 31	16 17 1436
Im tan Meter Car Co.,	\$925,250 7% Pfd 126,000 Sha. Com.	\$1 00 None	\$14	\$21	\$2,500	\$3,460	\$1,429,130 Dec. 31, '26	3.4 to 1 Dec. 31, '26	1927 1926 1925	\$25,899(d)(6mm:) \$96,794† \$433,239†	NII	2234 66 65	12% 12 35%
Marmon Motor Car Co.	\$500,000 Bonds \$1,000,000 7% Pfd. 200,000 Shs. Com.	\$7.00 \$4.00	\$45	\$42	\$10,500	\$9,900	\$6,067,136	2.7 to 1	1927 1926 1925	\$1,239,532(Yr. end \$1,669,800 July 31) \$1,524,275 (6mo.)	\$5.84 \$8.00 \$7.45	62½ 50¾	39½ 43½
foon Motor Car Co.	241,000 Shares	None	\$ 7	\$12	\$1,680	\$2,900	\$2,092,409 Aug. 31	3.1 to 1 Aug. 31	1927 1926 1925	\$182,002(d.)(8mo.) \$498,639(def.) \$1,102,828	Nil Nil \$6.13	12½ 37¾ 42	6 934 2234
Nash Meters Co.	2,730,000 Shares	\$4.00 and extras	\$100	\$69	\$273,000	\$188,000	\$46,747,000 Dec. 31, '26	3.6 to 1	1927 1926 1925	\$15,790,259 (9mo.) \$23,346,306 \$16,256,216	\$5.78 \$8.50 \$55.70	1017/8 71 488	601/4 52 1931/4
Packard Motor Car Co.	3,004,264 Shares	\$3.00	\$62	\$37	\$186,000	\$111,000	\$31,308,880 Nov. 30		1926	\$11,743,498; \$15,843,586; \$12,191,081;	\$3.91 \$5.27 \$4.84	62 4514 4812	33¾ 31¾ 15
Peerless Motor Car Corp.	258,589 Shares	None	\$22	\$27	\$5,400	\$6,900	\$6,637,311	7.8 to 1	1927 1926 1925	\$180,712 (9mo.) \$919,883 \$126,804	\$0.70 \$3.55 \$0.51	32 36 40	20 231/2 10
Pierce-Arrow Meter Car Co.	\$3,700,000 Deb. Bonds \$10,000,000 8% Pfd. 328,750 Shs. Com.	None	\$50 \$15	\$103 \$22	\$13,300	\$20,500	\$14,413,000 Dec. 31, '26	12.4 to 1 Dec. 31, '26	1927 1926 1925	\$258,618(d.)(9mo.) \$1,267,695 \$1,629,782	NII \$1.42 \$2.27	235/8 431/8 473/4	91/4 19 107/6
Ree Meter Car Co.	2,000,000 Shares	\$0.80 and extras	\$26	\$21	\$52,000	\$42,000	\$25,078,382 Aug. 31	4.2 to 1 Aug. 31	1927 1926 1925	\$4,145,792 (Years \$4,257,919 ended \$5,422,182 Aug. 31)	\$2.07 \$2.13 \$2.71	2734 2538 28	1914 1834 1514
The Studebaker Corp.	\$7,425,000 7% Pfd. 1,875,000 Shs. Com.	\$7.00 \$5.00	\$123 \$60	\$121 \$54	\$121,600	\$110,000	\$52,974,000	4.3 to 1	1927 1926 1925	\$11,627,592 (9mo.) \$13,042,119 \$16,619,522	\$5.99 \$6.67 \$8.55	63½ 62 685%	49 47 4114
Stutz Motor Car Co. of America, Inc.	\$789,000 Bonds • 232,827 Shs. Com.	None	\$19	\$18	\$5,190	\$4,950	\$1,870,491 Dec. 31, '26	1.6 to 1 Dec. 31, '26	1927 1926 1925	\$365,512 \$1,660,385 (def.)	\$1.57 Nii	213/6 373/4 28	121/6 161/8 6
Willys-Overland, Inc.	\$6,000,000 Bonds \$17,345,700 7% Pfd. 2,526,362 Sbs. Com.	\$7.00 None	\$93 \$20	\$91 \$22	\$73,500	\$78,900	\$40,592,000 June 30	4 to 1 June 30	1927 1926 1925	\$7,306,184† (9mo.) \$1,819,690 \$11,422,777	\$0.23 \$4.36	2434 34 3476	131/2 18 91/2
Federal Motor Truck Co.	\$1,375,000 Notes 430,756 Shares	\$0.80 and extras	\$18	\$28	\$9,120	\$13,470	\$6,677,591 Dec. 31, '26	9 to 1 Dec. 31, '26	1927 1926 1925	\$532,514 (9mo.) \$1,222,850 \$1,234,799	\$1.21 \$2.98 \$6.17	30% 51 47%	17 23 30
Mack Trucks, Inc.	\$2,600,000 Subsid. Bonds \$16,253,591 Pfd. 782,127 Shs. Com.	\$7.00 \$6.00	\$107	\$98	\$104,000	\$97,000	\$57,363,853 Dec. 31, '26	8.9 to 1 Dec. 31, '26	1927 1926 1925	\$5,103,592 (9mo.) \$8,852,453 \$9,468,270	\$5.44 \$9.86 \$12.37	1183/8 159 242	8814 895/8 117
Republic Meter Truck Co., Inc.	\$1,250,000 Bonds \$990,300 7% Pfd. 252,000 Shs. Com.	\$7.00 None	\$46 \$ 3	\$46 \$ 5	\$2,410	\$2,800	\$3,177,196 Dec. 31, '26	5.0 to 1 Dec. 31, '26	1927 1926 1925	\$365,889 \$317,647	\$0.98 \$0.79	534 1134 14	2 314 415
White Co.	800,000 Shares	\$2.00	\$41	\$56	\$33,000	\$45,000	\$35,144,323 June 30	7.1 to 1 June 30	1927 1926 1925	\$870,369 (6mo.) \$2,566,291 \$5,276,245	\$1.09 \$3.21 \$10.55	583% 90 1043%	3034 51 4 5734
follow Truck & Coach Mig. Co.	\$15,000,000 7% Pfd. 800,000 Shs. Com. 1,200,000 Shs.[Cl. "B"	\$7.00 None	\$89 \$32	\$99 \$35			\$28,672,529 Dec. 31, '26	8.1 to 1 June 30	1927 1926 1925	\$1,147,367(d.)(9mo.) \$1,125,922 \$2,330,743	NII \$0.06 \$2.13	40 395% 4834	25 20 221/6

^{*} To May 31. † Before Taxes.

[‡] Years end Aug. 31.



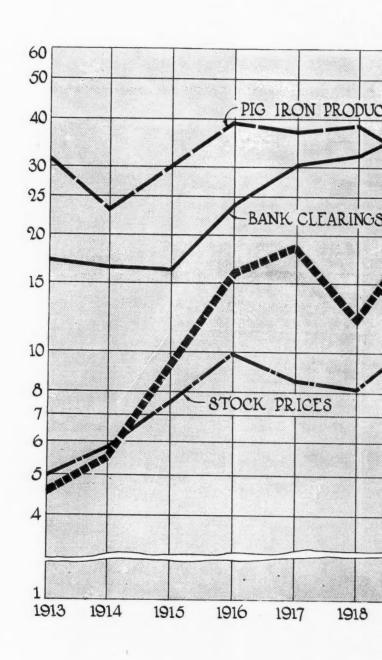
Trend of Motor Vel

Related to General I

Materials Used in Automotive Industry—1927

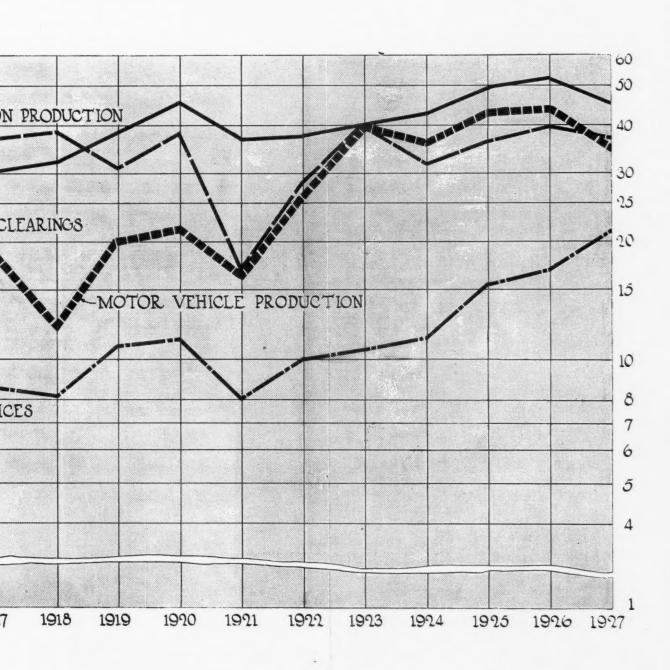
Amount
Copper and Brass220,000,000 lb.
Malleable Iron Castings. 278,000,000 tons
Alloy Steels425,000 tons
Aluminum65,000,000 lb.
Nickel10,000,000 lb.
Plate glass65,000,000 sq. ft.
Leather— Top Grains and Machine Buffs 17,745,000 sq. ft.
Machine Splits 20,040,000 sq. ft.
Hardwood900,000,000 bd. ft.
Upholstery Cloth38,000,000 yds.
Crude Rubber630,000,000 lb.
Paint and Varnish17,000,000 gal.
Cotton Fabric219,000,000 lb.
Hair and Padding42,000,000 lb.
Gasoline9,697,000,000 gal.
Machine Tools\$70,100,000





Vehicle Production

ral Business Indexes





NAME OF COMPANY	Securities Outstanding Jan. 1, 1928	Present Annual Dividend Per Share	Price	rket Jan. 1 rex.)	of Entir	ot Price te Comp. n. 1 mitted)	Total Current Assets as of Sept.	Current Current		Current Assets Linbilities		Net Income After Depreciation, Interest and Taxes Calendar Years		After Depreciation, Interest and Taxes		Quotations of Common Stock	
			1928	1927	1928	1927	30, 1927	as of Sept. 30, 1927	Year	Total	Share standin End of	High	Low				
American-Bosch Magneto Corp.	207,399 Shares	None	\$21	\$18	\$4,350	\$3,720	\$4,482,587	2.6 to 1	1927 1926 1925	\$168,947 (9mo.) \$448,319 \$521,393	\$0.81 \$2.16 \$2.51	263/4 343/6 543/2	13 16 2614				
Behn Aluminum & Brass Co.	349,136 Shares	\$1.50	\$35	\$14	\$12,400	\$4,900	\$2,725,550 Dec. 31, '26	6.5 to 1 Dec. 31, '26	1927 1926 1925	\$848,876 (9mo.) \$873,744	\$2.45 \$2.53	36¾ 18¾ 19	13 13 13/4				
Borg & Beck Co.	200,000 Shares	\$4.00	\$81	\$55	\$16,200	\$11,000	\$2,114,711	4.6 to 1	1927 1926 1925	\$631,000 (9mo.) \$907,222 \$645,974	\$5.05 \$7.26 \$5.17	803/4 563/4 321/4	59 28				
Briggs Mfg. Co.	2,003,225 Shares	None	\$23	\$28	\$46,000	\$56,000	\$18,895,407 Dec. 31, '26	4.6 to 1 Dec. 31, '26	1927 1926 1925	\$2,563,944 (9mo.) \$8,178,513 \$8,141,657	\$1.28 \$4.08 \$4.07	363/6 373/2 443/2	1930				
Budd Mfg. Co., E. G.	\$4,379,500 Bonds \$8,255,200 Pfd. 245,560 Shares Com.	\$7.00 None	\$34		\$19,650		\$8,957,044 Dec. 31, '26		1927 1926 1925	Not Available Not Available \$2,495,674		34 NotAv NotAv	20 ailable				
C. G. Spring & Bumper Co.	\$199,000 Bonds \$493,000 Pfd. 172,416 Shs. Com.	\$8.00 \$0.70	\$10 \$11	\$10 \$10	\$2,572	\$2,412	\$814,944 Aug. 31, '27	2.8 to 1 Aug. 31, '27	1927 1926 1925	\$318,656 (Fiscal \$547,719]years \$460,934 end Aug.		13¾ 15⅓ 13	634				
Continental Motors Corp.	\$6,873,400 Bonds 1,760,845 Shs. Com.	and extras \$0.80	\$11	\$13	\$26,400	\$29,000	\$12,434,270 Oct. 31, '27		1927 1926 1925	31) \$1,444,331 *Years \$2,026,327 end Oct. \$2,811,623 31.	\$1.15 \$1.60	13% 13% 15%					
Eaten Axle & Spring Co.	250,000 Shares	\$2.00	\$21	\$25	\$6,750	\$6,250	\$3,587,000 June 30, '27		1927 1926 1925	\$742,237 (9mo.) \$962,054 \$674,687	\$2.97 \$3.85 \$2.70	2934 3234 301/2					
Elec. Auto-Lite Co.	250,000 Shares	\$6.00 and extras	\$98	\$64	\$22,500	\$14,500	\$2,861,170 Dec. 31, '26	1.2 to 1 Dec. 31, '26	1927 1926 1925	\$3,294,430 (9mo.)* \$1,777,693 \$2,204,434	\$7.11 \$8.82	102 8214 79	6314 6134 67				
Gabriel Snubber Mfg. Co.	198,000 Shs. Cl. "A" 2,000 Shs. Cl. "B"	\$3.50 \$3.50	\$27	\$29	\$5,400	\$5,800	\$2,402,702 June 30, '27	4 to 1 June 30, '27	1927 1926 1925	\$981,635 (9mo.) \$1,033,630 \$1,314,081	\$4.90 \$5.17 \$6.57	59 42 3934	22 25% 28%				
Kelsey-Hayes Wheel Corp.	\$1,993,400 7% Pfd. 398,522 Shs. Com.	\$7.00 \$2.00	\$110 \$23		\$11,200		\$6,840,844	2.2 to 1	1927	\$573,165 (6mo.)*	40.01	27	19				
Marlin-Rockwell Corp.	343,761 Shares	\$2.00 and extras	\$48	\$26	\$16,500		June 30, '27 \$3,824,203 Dec. 31, '26	June 30, '27 3.8 to 1 Dec. 31, '26	1927 1926 1925	\$709,650 (9mo.) \$1,124,394 \$1,403,476	\$2.06 \$3.15 \$4.75	557 ₃ 33 327 ₄	27 2414 1034				
Marvel Carbureter Co.	75,000 Shares	\$3.20 and extras	\$63	n.	\$4,725		\$958,887 June 30, '27	4.7 to 1 June 30, '27	1927 1926 1925	\$548,728 (10mo.) \$670,301 \$370,851	\$7.32 \$8.94 \$4.94	63 Not Not	46% Listed Listed				
Martin-Parry Corp.	125,000 Shares	\$2.00	\$16	\$21	\$2,000	\$2,610	\$2,130,823 Aug. 31, '27	2.4 to 1 Aug. 31, '27	1927 1926 1925	\$5,235 Years end \$517,842 Aug. 31 \$202,140 (8mo.)	\$0.04 \$4.14	243/4	15%				
Mote Meter Co., Inc.	200,000 Shs. "A" 200,000 Shs. "B" \$750,250 Notes	\$3.60 None	\$20	\$34	\$6,200	\$9,000	\$2,170,271	4.6 to 1	1927 1926 1925	\$796,824 (9mo.)"A" \$1,561,973 "A" \$1,794,592 "A"		371/4 383/4 533/4 441/4	17 33% 38%				
Motor Wheel Corp.	550,000 Shares	\$2.00	\$20	\$35	\$11,000	\$19,250	\$5,686,000	6.2 to 1	1927 1926	\$1,377,226 (9mo.) \$1,625,052	\$8.97 \$2.50 \$2.81	337/6	1916				
Mullins Mfg. Corp.	\$946,500 Pfd. 100,000 Shares Com.	\$8.00 None	\$110 \$78	\$97 \$10	\$8,800	\$1,915	\$2,020,000	6.8 to 1	1925 1927 1926	\$588,000 \$301,089	\$4.33	35 78 19% 211/2	10				
Murray Corp. of America	\$5, 104, 285 Bds. & Pur. Mort. \$251, 100 Pfd. 8% 269, 333 Shs. Com.	None	\$25		\$11,900		\$7,328,535	8.1 to 1	1925 1927 1926	\$324,476 \$311,342 (9mo.)* \$1,646,000 (11mo.)*	\$2.47	43	1634				
Reynolds Spring Co.	\$1,022,500 Bonds \$159,100 Pfd. 7% Cum. 495,220 Shs. Com.	None None	\$9	\$5	\$5,600	\$3,600	\$2,022,000	8.9 to 1	1927 1926 1925	\$33,615(def.)(9mo.) \$156,198(def.) \$114,318(def.)	Nil	1114 105%	4				
Spicer Mig. Corp.	\$1,800,000 Pfd. 8% 313,750 Sha. Com.	\$8.00 None	\$112 \$25	\$23	\$9,850	\$7,200	\$2,902,643 Dec. 31, '26	5.0 to 1 Dec. 31, '26	1927 1926 1925	\$885,066 (9mo.)* \$1,638,990* \$1,810,183	Nil	2876 3136 3676	201 ₂ 1834 1514				
Sparks-Withington Co.	\$207,900 Pfd. 149,280 Shs. Com.	\$7.00 \$1.00	\$34	\$19	\$5,300	\$2,770	\$1,139,945 Dec. 31, '26		1927 1926	\$631,705° \$197,384	\$5.05 \$1.14	391/4	14 10				
Stewart-Warner Speedometer Corp.	599,990 Shares	\$6.00	\$83	\$65	\$49,700	\$39,000	\$14,368,000	6.6 to 1	1925 1927 1926	\$410,506 \$4,198,632 (9mo.) \$5,108,885	\$2.57j \$6.99 \$8.42	8714 9274	27% 54% 61				
Stromberg Carbureter Co. of America	80,000 Shares	\$2.00	\$44	\$48	\$3,510	\$3,820	\$1,644,061	6.8 to 1	1925 1927 1926	\$7,544,089 \$145,931 \$403,146	\$12.57 \$1.82 \$5.79	963/6 543/6 773/6 893/6	2634 4734				
Timken-Detroit Azie Co.	\$3,986,500 7% Pfd. 832,073 Shs. Com.	\$7.00 \$0.80	\$104 \$12	\$100 \$12	\$5,050	\$4,966	\$9,129,233 June 30	6.6 to 1 June 30	1925 1927 1928	\$660,011 (6mo.) \$1,772,460	\$7.87 \$0.56 \$1.62	14 13%	61 1034 834 334				
Timken Roller Bearing Co.	1,200,882 Shares	\$5.00 Incl. Extras	\$133	\$83	\$160,000	\$100,000	\$21,965,655 Dec. 31, '26	7.9 to 1 Dec. 31, '26	1925 1927 1926	\$1,382,062 \$5,406,834 (6me.) \$9,854,310	\$1.18 \$4.50	9% 14234 8534 50%	78				
Watsen Co., J. W	200,000 Shs. Com. 450,000 Dfd. Com. (Privately held)	\$2.00	\$20		\$8,000		\$721,210 June 30		1925 1927 1926 1925	\$8,088,338 \$401,082 (6mo.) \$577,450 \$502,593	\$8.26 \$6.73 \$2.00 \$2.88 \$2.51	251/2 Not	18% Listed Listed				

^{*} Before Taxes. † To Nov. 30.

Retail Financing Data

Number of New Cars Financed- 1927

Total Sales 2.740.000



Num Financed 1,589,000



Number of Used Cars Financed- 1927

Total Sales 2.795,000



Num Financed 1,789,000



Money Invested in New Car Sales-1927

Retail Value of New Cars Sold . . .

\$2,611,220,000

Money Advanced in Retail Financing

\$ 911,886,000



Money Invested in Used Car Sales-1927

Retail Value of Used Cars Sold . . . \$ 1,118,000,000



Money Advanced in Retail Financing . . . \$ 511,654,000



Total Number of New Cars Repossessed



Total Losses on Repossessed Cars



Proportion of Financing Placed on Standard Terms-

1925 . . . 76%

1926 . . . 84%

1927 . . . 86%

Average Outstanding Liabilities of Finance Companies

> New \$492,418,000

Used \$266,060,000 Loss per Repossessed Car-Standard Terms

1925 . . . \$50

1926 . . . \$65

1927 . . . \$43



Number of Dealers Holds Steady

BOTH passenger car and truck sales for 1927 were somewhat below those of 1926 but with Ford once more in the market and nearly all motor vehicle producers offering even better values than ever before the outlook for 1928 is considered exceptionally bright.

During the latter part of 1927 the total number of dealers decreased by about 1000, but the end of the year figures were slightly above 1926. Probably the fluctuation during the year was not particularly significant, especially as a part of the loss was in Ford dealers.

However, the rapid gain in dealer representation that was characteristic of earlier years apparently has been definitely terminated, and manufacturers are concentrating on quality in dealerships rather than quantity.

Truck dealers number 23,842, of which 9208 handle Fords and 14,634 other makes of commercial cars. The ratio of Ford truck dealers to total is considerably higher than is the ratio of Ford car dealers to total car dealers.

More and more non-Ford dealers are including the sale of accessories as a part of their business and undoubtedly are enhancing their profits by this increase

in their activities. During 1927 the number of Ford dealers who handle accessories decreased slightly but conditions were such that this may be meaningless.

In the chart at the lower right corner of page 232 is shown the relative number of car agencies by competitive groupings. In the present state of the industry it is rather hard to draw definite lines between competitive groups, but an attempt has been made as follows: Group 1 includes a number of low-priced cars such as Chevrolet, Essex, Pontiac, Whippet, etc. Group 2 takes in the next higher group with Auburn, Hudson, Hupmobile, Nash, Reo, Studebaker, etc. Group 3 includes some relatively high-priced cars such as Cadillac, Locomobile, Packard, etc. Group 4 consists of several

makes of cars which are placed in two or more of the above price classes and includes Chrysler, Dodge, Marmon, Peerless, etc.

Total sales of cars and trucks for 1927 were approximately 3,072,000, of which cars contributed 2,740,000 and trucks 332,000. The replacement market for cars and trucks last year is estimated to be about 1,900,000, which leaves only 1,172,000 vehicles which were sold to first time buyers.

Ford registrations for 1927 decreased rather sharply

from the previous year's figures, as was to be expected in view of the ever-growing number of cars scrapped while Ford additions were very limited during the year. Registrations of other cars increased slightly more rapidly than during the previous year.

In general, the number of passenger car dealers in a state is more or less proportional to motor vehicles in operation, although in some instances it follows population figures still more closely.

Pennsylvania has the greatest number of dealers but is second to New York in population and ranks fourth in motor vehicle registrations.

California ranks seventh in population, fifth in the number of dealers and is second in registrations.

The effect of a highly concentrated metropolitan market on sales per dealer is well illustrated in the case of the District of Columbia. The District ranks fortieth in population, thirty-seventh in registrations but there is only one State with fewer car dealers operating.

Distribution of truck dealers does not apparently follow any known rule inasmuch as cities have, heretofore at least, been regarded as the most fruitful source of truck sales with the result that many agricultural States seem to be a bit undersupplied with retail truck outlets considering the potential farm market for commercial vehicles.

	_	alers	
	(As of Se	eptember 1)	
Year	Ford Dealers	Non-Ford Dealers	Total Dealers
1918	6,910	21,850	28,760
1919	7,640	23,230	30,870
1920	7,510	27,110	34,620
1921	7,970	28,740	36,710
1922	8,860	28,040	36,900
1923	9,870	31,380	41,250
1924	10,810	35,310	46,120
1925	9,010	36,020	45,030
1926	9,210	40,230	49,440
(May) 1927	9,380	41,490	50,870
(Dec.) 1927	8,984	40,606	49,590



Marketing Data



Distribution of Dealers by States

Distributio			•	
(From Direct 1		iv., Chilton Class Cars		cks
	Ford		Ford	Non-Ford
Alabama	127	263	126	94
Arizona	34	150	35	80
Arkansas	159	331	152	105
California	400	1,966	374	623
Colorado	116	532	103	227
Connecticut	39	550	48	156
Delaware	28	59	28	16
Dist of Col.	11	65	13	24
Florida	124	507	124	162
Georgia	200	382	188	147
Idaho	60	244	61	95
Illinois	514	2,618	523	878
Indiana	267	1,407	292	371
Iowa	372	1,707	379	729
Kansas	333	1,105	300	389
Kentucky	150	596	176	196
Louisiana	98	262	133	99
Maine	87	395	85	161
Maryland	87	432	82	149
Massachusetts	186	1,009	207	286
Michigan	402	1,737	377	611
Minnesota	357	1,556	323	642
Mississippi	164	283	152	106
Missouri	314	1,118	313	337
Montana	85	316	83	136
Nebraska	282	833	273	364
Nevada	19	87	18	30
N. Hampshire	46	227	44	64
N. Jersey	154	1,242	161	369
N. Mexico	30	129	45	56
N. York	491	3,343	461	1,256
N. Carolina	193	554	206	195
N. Dakota	157	505	163	258
Ohio	472	2,604	461	863
Oklahoma	251	667	254	231
Oregon	95	400	92	145
Pennsylvania	515		521	1,228
Rhode Island	12	185	14	44
S. Carolina	105		117	73
S. Dakota	146		146	266
Tennessee	.114		145	166
Texas	266	1,413	484	537
Utah	56	202	57	80
Vermont Virginia	43		43	95
	195		194	237
Washington W. Virginia	149 102	706 597	151	243
Wisconsin	345		111	253
Wyoming	32	1,796 187	337 33	696 76
_				
Total	3,984	40,606	9,208	14,634

Proportion of Cars and Trucks in Each State

	Cars	Trucks
Alabama	86.9	13.1
Arizona	86.1	13.9
Arkansas		15.5
California	87.4	12.6
Colorado	91.7	8.3
Connecticut	84.5	15.5
Delaware		18.6
Dist. of Col		11.6
Florida		15.8
Georgia	87.2	12.8
Idaho		10.2
Illinois	87.2	12.8
Indiana	85.7	14.3
Iowa	90.9	9.1
Kansas		10.9
Kentucky	89.6	10.4
Louisiana	84.7	15.3
Maine	82.7	17.3
Maryland	96.6	3.4
Massachusetts	88.1	11.9
Michigan	86.5	13.5
Minnesota		12.7
Mississippi	91.1	8.9
Missouri	89.5	10.5
Montana		16.0
Nebraska	91.6	8.4
Nevada		20.9
N. Hampshire	87.5	12.5
N. Jersey		19.0
N. Mexico		6.7
N. York	83.1	16.9
N. Carolina	90.6	9.4
N. Dakota		9.9
Ohio	87.3	12.7
Oklahoma	.91.3	8.7
Oregon		8.9
Pennsylvania .	85.8	14.2
Rhode Island .		16.5
S. Carolina	89.8	10.2
S. Dakota	90.3	9.7
Tennessee	91.4	8.6
Texas	89.1	10.9
Utah		14.3
Vermont	92.1	7.9
Virginia	85.4	14.6
Washington	85.0	15.0
W. Virginia	87.1	12.9
Wisconsin	87.3	12.7
Wyoming	87.7	12.3
Total	87.3	12.7



Marketing Data



Commercial Car Sales by States—1927

States—172	
Approximate Fig	ures
No.	% of Total
Alabama 5,900	1.8
Arizona 1,300	0.4
Arkansas 5,000	1.5
California 15,500	4.7
Colorado 3,700	1.1
Connecticut 6,800	2.1
Delaware 1,000	0.3
Dist. of Col. 1,700	0.5
Florida 4,800	1.4
	1.6
	0.5
Illinois 16,300	4.9
Indiana 11,300	3.4
Iowa 6,700	2.0
Kansas 4,300	1.3
Kentucky 4,000	1.2
Louisiana 3,100	0.9
Maine 3,100	0.9
Maryland 4,700	1.4
Massachusetts 10,400	3.1
Michigan 14,600	4.4
Minnesota 7,100	2.1
Mississippi 4,000	1.2
Missouri 11,000	3.3
Montana 3,300	1.0
Nebraska 4,900	1.5
Nevada 400	0.1
N. Hampshire 1,400	0.4
N. Jersey 15,500	4.7
N. Mexico 800	0.2
N. York 35,300	10.7
N. Carolina . 7,500	2.3
N. Dakota 3,000	0.9
Ohio 15,300	4.6
Oklahoma 7,900	2.4
Oregon 3,000	0.9
Pennsylvania 25,100	7.6
Rhode Island 2,200	0.7
S. Carolina 2,900	0.9
S. Dakota 2,300	0.7
Tennessee 3,700	1.1
Texas 15,700	4.7
Utah 1,400	0.4
Vermont 1,200	0.4
Virginia 6,400	1.9
Washington . 5,000	1.5
W. Virginia 2,800	0.8
Wisconsin 10,800	3.3
Wyoming 900	0.3
1.0	1
Total332,000	100.0
Character of the Control of the Cont	5 57 000 000

Passenger Car Sales by States—1927

Approximate Figures

Ap_1	proximate F	igures	
	No.	% of Total	% of 1926 Total
Alabama	36,000	1.31	0.79
Arizona	9,900	0.36	0.30
Arkansas	31,600	1.15	1 90
California	179,900	6.57	6.21
Colorado	30,800	1.12	0.96
Connecticut	42,400	1.55	1.24
Delaware	6,800	0.25	0.25
Dist. of Col.	17,900	0.65	0.68
Florida	31,500	1.15	2.33
Georgia	35,600	1.30	1.57
Idaho	13,400	0.49	0.51
Illinois	159,800	5.83	5.90
Indiana	93,500	3.41	3.07
Iowa	70,800	2.59	2.85
Kansas	46,000	1.68	1.76
**	33,700	1.23	1.26
	24,300	0.89	900
			1.12
Maine Maryland	18,700	0.68	0.61
Massachusetts	34,400	1.25	1.19
	94,500	3.45	3.19
Michigan	149,300	5.45	5.90
Minnesota	60,400	2.21	2.50
Mississippi	27,000	0.98	1.61
Missouri	91,700	3.35	3.25
Montana		0.61	0.47
Nebraska	41,600	1.52	1.74
Nevada	2,300	0.08	0.20
N. Hampshire	10,600	0.39	0.38
N. Jersey	87,000	3.17	3.25
N. Mexico	6,100	0.22	0.20
N. York	241,600	8.82	7.64
N. Carolina	59,800	2.18	1.99
N. Dakota	15,200	0.55	0.80
Ohio	142,300	5.20	5.33
Oklahoma	66,200	2.42	2.62
Oregon	27,100	0.99	1.04
Pennsylvania	223,300	8.15	7.40
Rhode Island	14,900	0.54	0.40
S. Carolina	22,000	0.80	0.78
S. Dakota	18,800	0.69	0.60
Tennessee	43,400	1.58	2.22
Texas	136,600	4.99	4.90
Utah	10,900	0.40	4.90
Vermont	9,100	0.33	0.29
Virginia	43,000	1.57	1.57
Washington	36.000	1.31	1.20
W. Virginia	34,100	1.24	1.02
Wisconsin	84,900	3.10	3.09
Wyoming	6,700	0.24	0.23
Total	2,740,000	100.0	100.0
1 84 1 2 2 2 2			14 27



Marketing Data

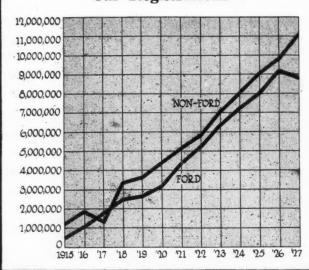


Percentage of Dealers Handling Accessories

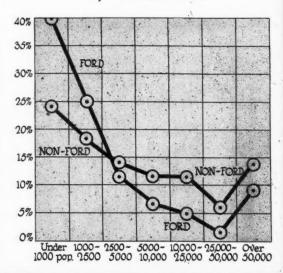




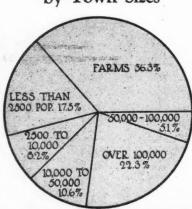
Ford and Non-Ford Car Registrations



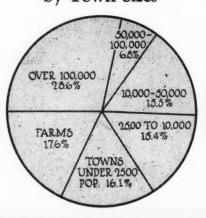
Ford and Non-Ford Dealers by Town Sizes



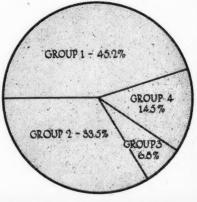
Car Registration by Town Sizes



Truck Registration by Town Sizes



Car Agencies By Price Classes





Growth of Highway Mileage and Expenditures 1904-1926

Total Mileage		Surfaced	Road Mileage	Rural Highway Expenditures		
1904	2,151,379	1904	153,500	1904	\$59,527,170	
1909	2,199,645	1909	190,000	1909	240,263,784	
1914	2,445,761	1914	257,300	1914	911,589,895	
1921	2,941,294	1921	387,700	1921	898,352,307	
1925	2,994,828	1925	521,923	1925	1,288,939,707	
1926	3,069,723	1926	563,532	1926	1,261,744,210	

Total Mileage and Mileage of Surfaced Roads in State Highway Systems

	Mileage Jan. 1, 1927	Miles of Surfaced Roads Jan. 1, 1927	Miles Surfaced During		Mileage Jan. 1, 1927	Miles of Surfaced Reads Jan. 1, 1927	Miles Surfaced During	Tetal Mileage Jan. 1, 1927	Miles of Surfaced Reads Jan. I, 1927	Miles Burfaced During 1926
Alabama	3,936	2,173	496	Maryland	2,420	2,420	148	Oregon 4,469	3,220	375
Arizona	2,031	1,422	113	Massachusetts	1,564	1,551	103	Pennsylvania. 12,033	8,440	1,045
Arkansas	8,346	4,153	874	Michigan	6,757	6,229	354	Rhode Island 822	452	50
California	6,582	3,538	265	Minnesota	6,931	6,354	1,728	S. Carolina 5,143	3,870	632
Colorado	8,967	3,499	407	Mississippi	6,721	3,839	584	S. Dakota 5,924	2,468	478
Connecticut	1,952	1,819	201	Missouri	7,640	3,376	1,167	Tennessee 5,051	3,556	473
Delaware	591	591	85	Montana	7,957	927	124	Texas 18,728	9,256	969
Florida	5,654	2,725	358		6,256	2,764	1,476	Utah 3,249	1,190	180
Georgia	6,259	2,665	387	Nevada	2,996	1,023	200	Vermont 4,462	3,139	139
Idaho	4,668	2,438	373	New Hamp're	2,257	1,963	186	Virginia 5,210	3.839	187
Illinois	9,460	4,496	408	New Jersey .	1,458	1,297	54	Washington. 3.284	2,607	127
Indiana	4,263	4,155	386	New Mexico .	9,214	1,685	482	W. Virginia 3,785	1,732	494
Iowa	6,654	3,470	994	New York	14,068	9,854	581	Wisconsin 10,280	8,420	1.016
Kansas	7,887	1.339	1.476	N. Carolina	6,218	5,464	1,092	Wyoming 3,136	929	233
Kentucky	9,647	4,192	435		6,838	1.335	977			
Louisiana	8,000	4,707	595	Ohio	11,000	9,591	2,481			
Maine	1,575	1,306	135	Oklahoma	5,589	1,585	437	Total287,928	163,059	26,552

Road Mileage, Road Income and Other Related Data for United States in 1926, 1925, 1921, 1914 and 1909

	1909	1914	1921	1925	1926
Total Road Mileage		2,445,761	2,941,294		
Surfaced Mileage	190,476	257,291	387,760		563,532
Percentage Surfaced	8.7	10.5		17.4	18.4
Total Income for all Rural Road Purposes	1	\$240,263,784	\$1,149,437,896	\$1,358,508,009	\$1,356,226,072
State and Local Road and Bridge Bonds Outstanding at End of					
Year	1	\$344,763,082	\$1,222,312,300	\$259,190,271	\$248,259,417
Land Area (Square Miles)	2,973,830	2,973,830	2,973,830	2,973,830	2,973,830
Population	291,641,197	291,641,197	3105,273,049	4113,110,000	8118,628,000
Rural Population	249,348,883	249,348,883	351,406,017	351,406,017	351,406,017
Miles of Road per Square Mile of Area	0.74	0.82	0.99	1.005	1.03
Miles of Road per 1000 of Rural Population		49.5	57.2	58.3	59.8
Surfaced Mileage per Square Mile of Area	0.064	0.086	0.130	0.175	0.190
Surfaced Mileage per 1000 of Rural Population	3.86	5.21	7.54	10.2	10.9
Road and Bridge Income per Mile of Road	1	\$98.22	\$390.79	\$453.62	\$441.81
Road and Bridge Income per Square Mile of Area	1	\$80.79	\$386.52	\$456.82	\$456.05
Road and Bridge Income per Capita	1	\$2.62	\$10.92	\$12.01	\$11.44

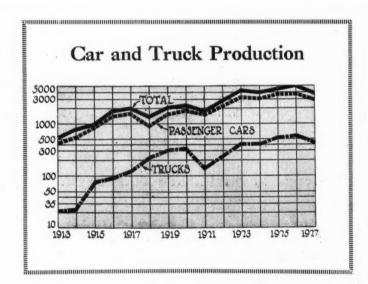
No data available. 2-1910 Census. 3-1920 Census. 4-1925 Census Estimate. 4-July 1, 1927, Estimate.



Total Car Output Lower in 1927

By K. W. Stillman

HILE total car and truck production in the United States and Canada for 1927 was the lowest it has been since 1922, still it was only about 200,000 units less than that of 1924 and, with the chief exception of Ford, was another record-breaking year both in output and profits for most producers. The wholesale value of cars produced did not show as great a proportionate drop as did the number pro-



duced, which resulted from the generally higher average price being paid for cars by consumers despite continued price reductions.

In the truck market the opposite was true, the wholesale value showing a greater proportionate drop than output, due to a general lowering of the average price level for which trucks are being bought.

A considerable share of the decreased production of 1927 over

Passenger Car Production

(United States and Canada)

	Year	Number	Value, Wholesale
	1912	356,000	\$335,000,000
	1913	461,500	399,902,000
	1914	543,679	413,859,379
	1915	818,618	565,978,950
	1916	1,525,578	921,378,000
	1917	1,740,792	1,053,505,781
	1918	926,388	801,937,925
	1919	1,657,652	1,461,785,925
	1920	1,883,158	1,809,170,963
	1921	1,514,000	1,093,918,000
	1922	2,397,827	1,567,003,041
	1923	3,760,956	2,276,399,270
	1924	3,320,814	2,011,038,288
*	1925	3,899,770	2,523,642,558
	1926	3,973,236	2,730,385,507
	1927	3,085,738*	2,190,000,000

*2,938,868 produced in United States and 146,870 in Canada.

Motor Truck Production

(United States and Canada)

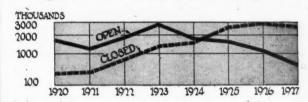
Year	Number	Value, Wholesale
1912	22,000	\$21,000,000
1913	23,500	43,000,000
1914	25,375	45,098,464
1915	74,000	125,800,000
1916	92,130	161,000,000
1917	128,157	220,982,668
1918	227,250	434,168,992
1919	316,364	423,326,621
1920	311,531	423,249,410
1921	142,402	164,858,550
1922	248,402	220,119,667
1923	405,737	305,999,606
1924	415,350	307,211,344
1925	527,323	433,744,079
1926	530,655	433,371,169
1927	487,575*	366,750,000

* 455,019 produced in United States and 32,556 in Canada.





Open and Closed Car Output



Although the number of closed cars produced in 1927 was less than in 1926, the reduction was small compared with the loss in open car output

1926 was absorbed in open car output, the number of closed cars produced during 1927 being only about 300,000 less than in 1926 while open car output fell off about 600,000. Closed car production during 1927 made up 81.7 per cent of the total output, a gain of nearly 10 per cent over 1926 figures.

A very notable increase was made during 1927 in the relative number of six-cylinder cars produced. Part of this result can be directly attributed to the absence of Ford production during much of the year, but even with this element eliminated there undoubtedly has been a real increase in the relative number of six-cylinder cars produced. Last year six-cylinder cars made 47.1 per cent of the total as compared with 34 per cent for 1926. All of this gain was at the expense of four-cylinder cars, since the proportionate number of eight-cylinder cars produced also increased from 2 per cent in 1926 to 3.2 per cent last year.

Rather small changes were made in the output of trucks by various capacity classes, the absence of Ford apparently having less influence in this field than in that of passenger cars. Both 1-ton and 1½-ton trucks decreased slightly in relative numbers while ¾-ton and those over 1½ tons gained.

In this last class all individual sizes increased in relative numbers except trucks of 5 tons and over and the miscellaneous class which includes buses, ambulances and similar vehicles not possible to rate by weight.

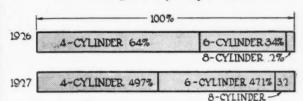
Foreign assembly sales continue to grow in importance, more American manufacturers having established assembly plants during the past year. As is explained in some detail in the export analysis elsewhere in this issue, the figures given in the present table include units which both have and have not been declared as complete vehicles upon export. Some units were so declared while others have been declared merely as

Ratio of U. S. Exports to Production

Per Cent Exported

	1919	1923	1924	1925	1926	1927
Passenger Cars	4.0	3.4	4.6	6.4	6.2	9.5
Motor Trucks	5.1	6.6	7.1	11.8	13.6	23.6
Tires		4.0	3.6	3.9	3.6	4.2

Car Output by Cylinders



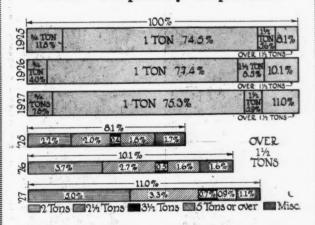
Due partly to the Ford situation, the proportionate number of six-cylinder cars produced increased greatly during 1927

Foreign Assembly Sales

Year	No. of Foreign Assembly Plants	No. of Foreign Assembly Sales
1923	7	75,985
1924	10	116,148
1925	17	152,262
1926	26	145,774
1927	33	192,981

Sales figures include sales of cars assembled from parts exported from U. S. and Canada without regard as to whether or not they have been declared, on export, as "parts for assembly" or a relative number of cars. Sales do not include those from the British Ford plant which are made up of almost 100 per cent British materials. Number of plants includes only those which perform a number of manufacturing operations in addition to simply putting parts together. Source: Automotive Division, Department of Commerce.

Truck Output by Capacities



Little change was experienced in truck production by capacities. A continuation of the increase in large capacity trucks was most noticeable

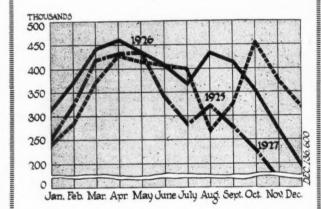


Number and Per Cent of Truck Production by Capacities

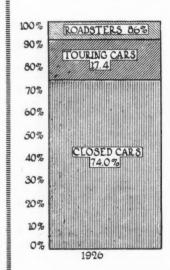
(United States and Canada)
(Based on N.A.C.C. Data)

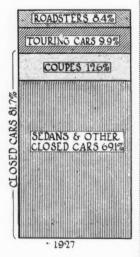
	1924		1925			926	1927	
	Number	%	Number	%	Number	%	Number	%
3/4 ton or less	58,900	14.2	62,100	11.8	21,100	4.0	38,000	7.8
1 to 1½ tons	299,800	72.1	393,200	74.5	411,100	77.4	367,100	75.3
1½ to 2 tons	20,500	4.9	29,200	5.6	45,200	8.5	28,800	5.9
2 to 2½ tons	11,600	2.8	11,900	2.2	19,700	3.7	24,400	5.0
2½ to 3½ tons	10,800	2.6	10,900	2.0	14,400	2.7	16,100	3.3
3½ to 5 tons	2,400	0.6	2,200	0.4	2,400	0.5	3,400	0.7
5 tons and over	11,400	2.8	9,300	1.8	8,500	1.6	4.400	0.9
Miscellaneous			8,500	1.7	8,300	1.6	5,400	1.1
Total	415,400	100	527,300	100	530,700	100	487,600	100

Monthly Output of Cars and Trucks



Car Output by Models





"parts" without any information as to the number of complete vehicles which might be assembled from them. The task of analyzing these figures so as to determine, without duplication, the complete foreign market for American cars is a difficult one and is discussed more fully in the export section.

A summary of 1927 production data follows:

Passenger Cars—	
United States 2,938,868	
Canada 146,870	
Trucks—	
United States 455,019	
Canada 32,556	
Buses 11,500	
Motorcycles 45,000	
Tires66,000,000	
Airplanes—	
Total 2,400	
Commercial 1,700	
Foreign Assemblies 192,981	

Closed Cars 2,521,000

An attempt has been made to classify cars produced by models with the result shown in an accompanying chart. Details of 1926 closed car output are not avail-

Foreign Motor Vehicle Production

	1923	1924	1925	1926	1927	
Great Britain	88,000	132,000	153,000	199,000	228,500	
France	125,000	145,000	177,000	200,000	*190,000	
Italy	20,000	35,000	39,500	64,800	60,000	
Germany	35,000	18,000	55,000	75,000	*66,000	
Belgium	3,600	4,500	5,600	8,000	8,500	
Czechoslovakia.				7,500	12,000	
Austria				5,000		
Spain				1,000		
Hungary					500	
Russia					500	
* Includes U.	S. ass	emblies.				



Number and Percentage of Passenger Car Production by Price Classes

		Under \$1000		\$1000-\$	2000	\$2000-\$	3000	Over \$3000		
	Year	No.	%	No.	%	No.	%	No.	%	
	1912	 156,000	43.8	169,800	47.7	10,300	2.9	19,900	5.6	
	1913	 289,400	62.7	131,500	28.5	23,100	5.0	17,500	3.8	
	1914	 339,800	62.5	160,400	29.5	29,900	5.5	13,600	2.5	
	1915	 591,900	72.3	199,700	24.4	18,000	2.2	9,000	1.1	
	1916	 1,240,300	81.3	236,500	15.5	36,600	2.4	12,200	0.8	
	1917	 1,389,200	79.8	304,600	17.5	26,100	1.5	20,900	1.2	
	1918	 663,300	71.6	224,200	24.2	31,500	3.4	7,400	0.8	
	1919	 976,400	58.9	578,500	34.9	69,600	4.2	33,200	2.0	
	1920	 1,118,600	59.4	619,600	32.9	81,000	4.3	64,000	3.4	
	1921	 1,044,700	69.0	352,800	23.3	81,700	5.4	34,800	2.3	
	1922	 1,774,400	74.0	522,700	21.8	59,900	2.5	40,800	1.7	
	1923	 3,068,300	81.6	617,300	16.4	45,200	1.2	30,200	0.8	
	1.924	 2,434,800	73.3	809,200	24.1	42,900	1.3	42,900	1.3	
	1.925	 2,853,700	73.2	913,600	23.4	70,300	1.8	62,400	1.6	
	1926	 3,059,500	77.0	778,500	19.6	63,600	1.6	71,600	1.8	
	1927	 2,005,700	65.0	907,200	29.4	138,900	4.5	33,900	1.1	

Production of Closed Cars

(Percentage of Closed Cars to Total Production in Each Price Class)

Year	Under \$1000	\$1000-\$2000	\$2000-\$3000	Over \$3000
1919	9.0	8.0	24.0	30.5
1920	19.1	12.0	22.0	22.3
1921	21.5	18.5	36.8	44.0
1922	24.3	39.6	80.4	78.7
1923	32.4	35.8	82.8	90.3
1924	32.3	71.6	77.7	91.4
1925	49.8	73.8	80.0	82.5
1926	68.0	84.5	84.4	75.0
1927	84.0	77.7	78.3	81.7

able to compare with that of 1927 but it is evident that the increase in total closed car production for 1927 over the previous year was made at the expense, almost entirely, of phaetons.

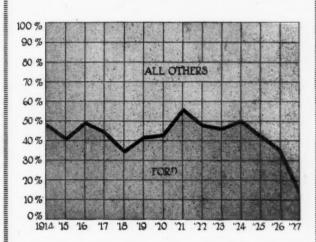
Motor vehicle production in Great Britain during 1927 was of record-breaking proportions while that of most other foreign producing countries was slightly under the 1926 totals. The figures given in the accompanying table for Great Britain and Germany include Ford assemblies because, while these are American designed cars, they are built almost entirely of British and German materials.

Production in the lowest-price class of passenger cars showed a considerable relative decrease over previous years, marking, undoubtedly, the extent of the Ford influence on this market. Most of this loss was taken up by the class of cars selling between \$1,000 and \$2,000, which made up a proportionately larger share of production than ever before and was second only to 1925 in actual number of cars produced.

Ratio of Ford output to total declined severely, of course. It will be very interesting to watch this particular curve during the next few years.

Fabric tires have almost disappeared from the market. Balloon tires for the first time make up over half the total pneumatic tire output although high pressure cords continue to be built for replacement purposes.

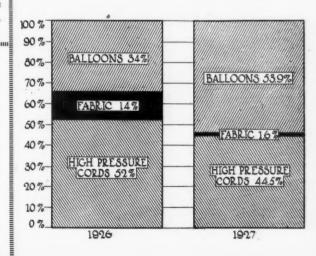
Ratio of Ford Output to Total



Open and Closed Car Production

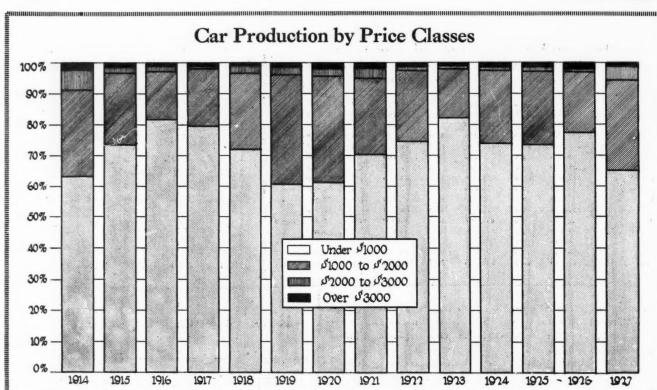
Year	Open	Closed	% Closed
1919	1,497,000	161,000	10.3
1920	1,563,000	320,000	17.0
1921	1,179,000	335,000	22.1
1922	1,679,000	719,000	30.0
1923	2,515,000	1,246,000	34.0
1924	1,892,000	1,429,000	43.0
1925	1,696,000	2,204,000	56.5
1926	1,114,000	2,859,000	72.0
1927	564,700	2,521,000	81.7

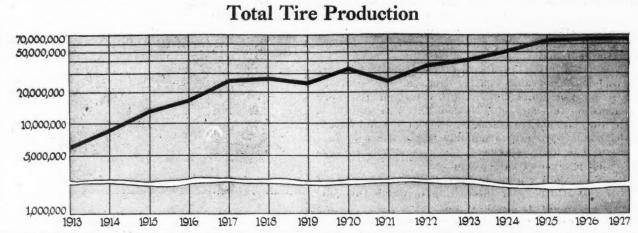
Tire Output by Types

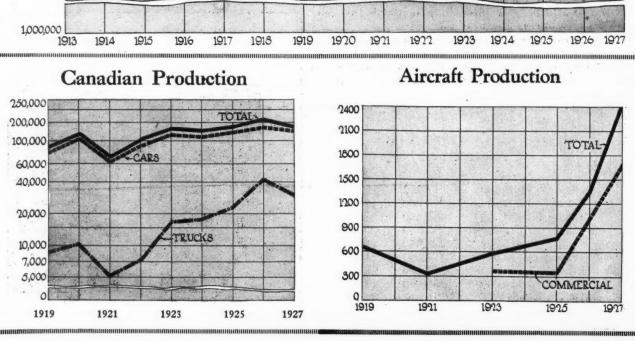


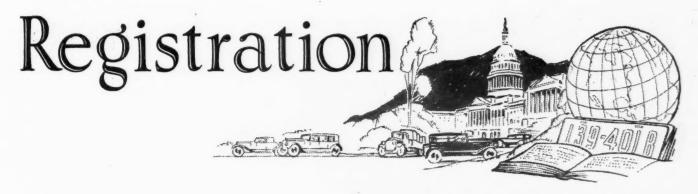












Summary Table of World Registrations of Motor Vehicles

	Total Cars, Trucks and Buses	Cars	Trucks	Buses	Motor- cycles
Americas (except U.S.)	1,560,441	1,341,131	218,556	754	13,482
United States	23,253,882	20,282,214	2,941,930	29,738	119,668
Oceania	633,149	522,337	110,812		120,668
Asia	348,656	284,944	58,575	5,137	54,337
Africa	229,190	201,586	24,747	2,857	48,248
Europe	3,614,487	2,608,083	890,527	115,877	1,447,410
Total	29,639,805	25,240,295	4,245,147	154,363	1,800,813

North and South America

					Motor-
Country	Total	Cars	Trucks	Buses	cycles
Alaska	2,050	1,350	700		
Argentina	241,356	205,568	35,788		2,210
Bahamas	985	753	230	2	16
Barbados	1,382	1,295	87		100
Bolivia	1,300	1,300			175
Brazil	140,102	96,735	43,367		
British Guiana	1,200	1.075	125		150
" Honduras	150	110	40		15
Canada	939,479	831,542	107,937		7,596
Chile	19,100	14,900	4,200		200
Colombia	11,291	7,040	4,251		
Costa Rica	1,360	950	300	110	120
Cuba	45,000	45,000			200
Dominica	35	25	10		5
Dominican	-	20			-
Republic	4,075	3,250	800	25	75
Dutch Guiana.	240	160	80		
Dutch W. Indie		1,050			
Ecuador	1,239	885	334	20	26
Grenada	325	275	50		40
Grenadalauma	680	640	40	* *	25
Guadeloupe	2.069	2,069		* *	150
Guatemala		1.121	246	(344)	16
Haiti	1,711	628			
Honduras	628		4 800	* *	500
Jamaica	5,610	4,310	1,300	10	111
Martinique	1,637	1,383	236	18	111
Mexico	50,000	50,000	*07	*:	71
Newfoundland	1,342	1,146	187	9	
Nicaragua	450	400	50		60
Other British					-
_ West Indies.	900	650	250		75
Panama	6,100	6,100			220
Paraguay	1,001	543	308	150	1
Peru	10,500	6,300	4,200		100
Porto Rico	14,047	10,852	2,775	(420)	
Salvador	1,595	1,375	220		130
St. Lucia	85	55	30		20
St. Pierre and					
Miquelon	51	17	44		2
Trinidad and					
Tobago	4.042	4,042			500
United States.	23,253,882	20,282,214	2,941,930	29,738	119,668
Uruguay	31,260	25,400	5,440	420	423
Venezuela	15,004	10,073	4,931		
Total 1928	24.814.323	21,623,345	3,160,486	30,492	133,150
Motel .					

*Figures shown thus () are not buses but are unclassified automobiles made up of the various classes listed.

Less U. S. 1,560,441 1,341,131 218,556 754 13,482

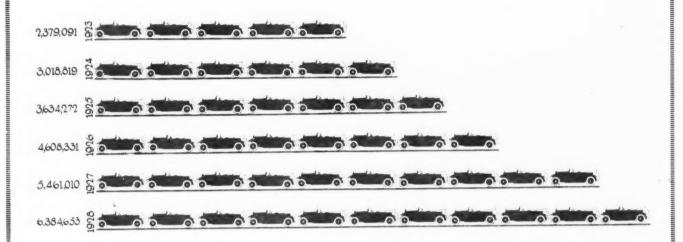
Africa

	Total Cars.				
-	Trucks.				Motor-
Country	Buses	Cars	Trucks	Buses	
Abyssinia	243	215	28		25
Algeria	30,550	25,750	4,000	800	1,000
Angola	1,653	800	850	3	100
Belgian Congo	3,500	1,900	1,600		1,500
British E. Africa.	12,823	12,823			5,000
British Somali-					.,
land	33	29	4		6
British W. Africa.	13,097	13,097			900
Canary Islands	4,859	3,367		129	99
Egypt	20,553	17,125	2,278	1,150	3,215
Eritrea	113	105	8	• • • •	18
French Somali-					
land Coast	- 68	60	8	***	10
French W. Africa	4,050	2,250	1,800	***	300
Italian Somaliland	96	80	16	***	20
Liberia	180	180		***	***
Madagascar	1,359	1,359			700
Madeira	500	500			
Mauritus	2,957	2,957			
Morocco	13,806	10,206	3,600		1,150
Portuguese East					
Africa	1,140	800	325	15	300
Reunion	850	750	100		115
Rhodesia	5,966	5,593	373	***	1,818
Seychalles	10	10	***		20
South Africa	100,750	92,500	7,500	750	32,000
South W. Africa.	1,331	1,052	279	***	76
Spanish Morocco	600	600			
Sudan	250	200	50		50
Tangier	418	- 278	130	10	26
Tunisla	7,435	7,000	435	***	***
Total 1928	229,190	201,586	24,747	2,857	48,248

Registrations



Growth of Registrations Outside the U.S.



	1	Lurop	e			
	Total	-				
	Cars,					
	Trucks,				Motor-	
Country	Buses	Cars	Trucks	Buses	cycles	
Albania	433	353	80			
Austria	25,163	15,687	9,476		27,051	
Azores	650	550	100		25	
Belgium	100,000	100,000			32,000	
Bulgaria	2,265	2,265			400	
Czechoslovakia	33,909	22,944	9,980	985	18,832	
Danzig Free						
City	1,930	1,302	549	79	880	
Denmark	84,094	66,126	17,968		22,000	
Esthonia	2,138	2,138			100	
Finland	25,250	17,550	6,000	1,700	5,090	
France	960,000	668,000	292,000		153,000	
Germany	422,300	298,600	123,700		384,600	
Gibraltar	607	479	97	31	55	
Great Britain.	1,219,477	807,103	309,527	102,847	660,928	
Greece	17,300	11,000	3,750	2,550	1,050	
Holland	74,000	47,100	26,900		29,700	
Hungary	12,850	9,400	3,100	350	5,700	
Iceland	509	509				
Irish Free						
State	44,304	36,122	8,182		10,920	
Italy	165,000	165,000				
Latvia	3,050	1,350	550	150	500	
Lithuania	1,030	1,030				
Malta	1,451	1,451				
Northern						
Ireland	20,542	12,890	4,902	2,750	6,685	
Norway	33,100	24,000	9,100		7,400	
Poland	18,878	14,357	3,286	1,235	3,403	
Portugal	20,000	20,000			1,400	
Roumania	18,777	18,777			1,000	
Spain	110,000	97,500	12,500			
Sweden	110,500	81,600	26,700	2,200	32,500	
Switzerland	53,000	44,000	8,000	1,000	30,000	
U. S. S. Russia	22,500	10,000	12,500		8,500	
Yugoslavia	10,480	8,900	1,580		3,100	
Total 1928	3,614,487	2,608,083	890,527	115,877	1,447,410	

	Total Cars.				
7	rucks.				Motor-
Country	Buses	Cars	Trucks	Buses	cycles
Afghanistan	200	100	100		
Arabia	882	699	40	143	129
British Malaya	27,916	23,120	4,796		4,189
British N. Borneo	70	55	15		10
Ceylon	13,812	13,812			2,903
China	17,121	14,567	1,611	943	518
Chosen	1,819	1,819			
Cypress	1,027	1,027			175
French Indo China	12,800	12,800			1,288
Hong Kong	1,805	1,350	340	115	600
India	117,000	100,000	17,000		24,900
Iraq	4,237	3,591	640	6	250
Japan	49,556	33,959	15,597		10,000
Netherlands East					
Indies	44,394	39,294	5,100		7,734
Palestine	2,424	1,760	319	345	221
Persia	6,560	4,800	1,700	. 60	500
Philippine Islands	-28,975	18,875	7,750	2,350	75
Siam	6,391	3,732	1,574	1,085	618
Syria	5,267	4,784	393	90	4
Turkey	6,400	4,800	1,600	• • •	400
Total 1928	348,656	284,944	58,575	5,137	54,33

C	cean	ia		
	Total Cars,			Motor-
Country	Trucks	Cars	Trucks	cycles
Australia	464,225	333,263	80,962	85,000
Fiji Islands	833	683	150	93
French Oceania	420	350	70	55
Hawaii	33,200	26,500	6,700	400
New Zealand	134,215	111,385	22,830	35,111
Western Samoa	256	156	100	9
Total 1928	633,149	522,337	110,812	120,668



United States Registrations —

355 463

Registrations Show 5.5% Gain

By K. W. Stillman

OTAL car. truck and bus registrations in the United States, as of Dec. 31, 1927, totaled 23,253,882, according to the best information available from the various state officials. Of this total car registrations were 20,-282,214; trucks (including buses, also, in many states), 2,941,930; and buses, in the 19 states in which bus figures are segregated from cars and trucks, were 29,738.

Total registrations increased over 1926 figures by 1,206,925, which represents a 5.5 per cent gain. This may be compared with similar figures published here a year ago in which actual increase was 2,189,042 and percentage gains 11.0 per cent.

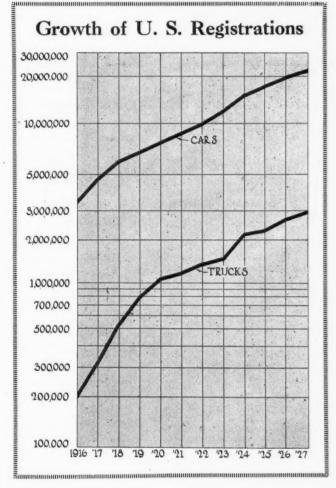
The number of persons per vehicle in this country continues to decrease, having moved from 5.4 in 1926 to 5.1 in 1927, demonstrating that the saturation point for motor vehicles is not yet reached since their numbers

are still growing faster than population.

For the first time several states show decreased registrations from end of 1926 figures. To a large extent this has probably been caused by the Ford situation during the past year, since probably a vast majority of first car buyers purchase Fords. Since Fords were not available for a large part of the year it is likely that many new buyers were kept out of the market while old cars were wearing out just as fast as ever.

Local conditions also may have something to do with this, particularly in Florida, where the greatest decrease was experienced, and in the District of Columbia. In the District the absence of legislative sessions during 1927 undoubtedly caused a decrease in motor vehicle operations throughout the year and in Florida the lessened business activity may also have had something to do with the apparent loss in registrations.

Gasoline taxes are constantly increasing in volume and this year, with two large motor vehicle-using states not levying such a tax, the total is but a little



below the total license fees collected throughout the country.

Motorcycles continue to decrease in number but not so rapidly as in previous years.

It is to be hoped that more states will so change their motor vehicle statistical methods that motor bus registrations may be properly segregated from other types of vehicles. Until this is done it appears to be impossible to form a reliable estimate of the number of buses in use in the country. The few figures which have been available for this tabulation indicate the extent to which buses are being employed, even in the small, rather sparsely settled states.

According to the data received, Oklahoma registered the largest percentage gain during 1927, its figure of 26.4 per cent almost twice that of its nearest competitor, Maryland, which had a gain of 14.1 per

cent. Since the figures for 1926 registrations in Oklahoma were estimates—correst data not being available at that time—it is possible that a considerable part of this large increase is of a statistical nature only.

The present situation in regard to growth of motor vehicle registrations in this country is seen in the statement that while 22 states gained, during 1926, 10 per cent or more over 1925 registrations, during 1927 but four states were in this category. Of course, a very considerable part of this great change was due to the failure of motor vehicle sales during 1927 to equal those of the previous year but there is growing evidence of the approach of the time when registrations will increase more or less with population and the industry will be supported, at home at least, by a huge replacement market demanding as many cars and trucks for replacement as are being produced for all purposes now.

An interesting fact in connection with fees taken from motor vehicle owners is that, of the 47 states

United States

levying taxes on gasoline, 24 of them obtained more revenue from the fuel tax than from license fees. There seems little doubt but that within the next year or two this comparatively recent method of taxation will produce considerably more revenue than any other form of motor vehicle taxation. The arrival of this time would be hastened, of course, should one or both of the states which now do not impose a fuel tax adopt this highly successful method of obtaining revenue.

Few changes were made during 1927 in relative positions of the various states. There are 10 states with over one million motor vehicles, as there were a year ago, and in eight of them there are over one million passenger cars alone. This, too, is not different from the situation at the close of 1926.

The arithmetical average registration per state is about 475,000 while the median figure is slightly over 280,000, showing what a great influence the very large registrations of New York, California, Ohio, etc., have upon the total. The average registration is between those of Kansas and North Carolina, the former being but 16 states from the top. The first 10 states in order of rank contain nearly 55 per cent of all the motor vehicles in the country.

Motor Vehicle Registration Statistics

	al Cars, ucks and	Passenger				Registration	Gasoline
State	Buses	Cars	Trucks	Buses	Motorcycles	Fees	Taxes
Alabama **	243,539	211,633	31,906	(1)	420	\$2,422,036	\$4,420,586
Arizona	74,527	64,118	10,409	(1)	300	425,000	1,000,000
Arkansas	206,568	174,524	32,044	(1)	479	4,000,000	4,338,747
California 1	.699.955	1,485,527	214,428	(1)	9,447	8,518,091	24,692,994
Colorado	268,026	245,738	22,288	(1)	1,327	1,639,658	2,250,000
Connecticut	282,892	238,643	43,620	629	3,364	5,312,644	3,000,000
Delaware	46,707	38,037	8,670	(1)	313	846,289	654,230
Dist. of Columbia.	126,136	111.145	14.593	398	1.151	141,293	1,000,000
Florida	391,168	329,200	61,968	(2)	1,362	5,692,128	10,980,586
Georgia	296,567	258,461	37,978	128	908	3,712,978	7,970,290
Idaho	103,000	92,500	10,500	(1)	500	1,500,000	1,419,712
Illinois 1		1,254,421	184,564	$(\bar{1})$	6,135	14,839,593	3,953,048
Indiana	813,496	696,457	116,137	902	3,501	5,430,806	10,039,642
Iowa	706,829	642,632	64,197	(2)	1,770	10,270,685	7,362,138
Kansas	501,901	447,273	54,628	(1)	1,218	4,990,192	5,032,385
Kentucky	285,099	255,370	29,729	(1)	693	4,306,909	5,886,514
Louisiana	255,000	216,000	39,000	(1)	375	4,139,343	2,768,805
Maine	164,250	134,100	30,044	106	1,311	2,529,654	2,385,896
Maryland	284,267	271,861	11.711	695	241	2,425,364	4,751,365
Massachusetts	696,107	612,855	81,848	1,404	7,245	12,689,315	None
	.156,344	999,915	156,429	(1)	3.586	16,866,996	13,219,112
Minnesota	640,102	558,437	81,281	384	2,295	10,240,399	5,174,880
	227,103	204.403	22,700	(1)	83	340,655	4.689.074
Mississippi	678,564	607,145	71,419	(1)	1,830	8,210,000	5,905,569
Missouri	112,756	94,752	18,004	(1)	155	1,143,337	850,000
Montana				144			
Nebraska	373,912	342,357	31,411	75	1,109 99	3,740,553 $229,769$	3,656,654
Nevada	25,851	20,414	5,362				505,544 900,000
New Hampshire	96,000	84,000	12,000	(1) 10.379	1,300	2,000,000	000,000
New Jersey	712,402	576,133	125,890		6,857	12,963,541	3,493,553
New Mexico	60,000	56,000	4,000	(1)	175	510,000	600,000
New York 1		1,579,051	321,815	(1)	18,000	31,743,545	None
North Carolina	422,544	383,456	39,088	(1)	941	3,341,479	4,854,139
North Dakota	160,696	144,827	15,869	(1)	277	1,595,390	1,673,836
Ohio 1		1,372,621	197,797	(1)	7,822	10,646,227	19,894,675
Oklahoma	644,450	588,000	56,450	(1)	850	5,750,000	6,650,000
Oregon	246,623	224,715	20,990	918	2,030	6,527,341	3,650,000
Pennsylvania 1		1,345,526	214,627	8,464	14,267	25,916,220	*11,906,529
Rhode Island	119,335	99,854	19,481	(1)	1,332	1,685,875	915,958
South Carolina	199,794	179,568	20,061	165	401	2,115,422	5,026,515
South Dakota	170,592	154,059	16,533	(1)	229	2,510,000	2,748,388
Tennessee	295,530	269,984	25,546	(1)	730	3,950,000	4,120,000
Texas 1	,110,986	993,288	114,559	3,139	3,082	10,790,457	10,919,111
Utah	78,976	67,731	11,245	(1)	531	672,403	1,446,913
Vermont	79,510	73,190	6,215	105	600	1,750,000	600,000
Virginia	335,275	286,334	48,941	(1)	2,000	4,890,000	6,445,000
Washington	389,409	330,877	57,916	616	2,501	6,082,303	3,803,698
West Virginia	241,042	209,326	31,129	587	1,431	4,003,992	3,674,358
Wisconsin	698,944	609,950	88,494	500	2,961	9,738,922	6,000,000
Wyoming	52,222	45,806	6,416	(1)	134	525,807	756,049
Total23	3,253,882	20,282,214	2,941,930	29,738	119,668	\$286,312,611	\$237,986,493

^{*} For nine months only.
** For fiscal year ending Sept. 30.
(1) Included with trucks.
(2) Included with passenger cars.

Registrations



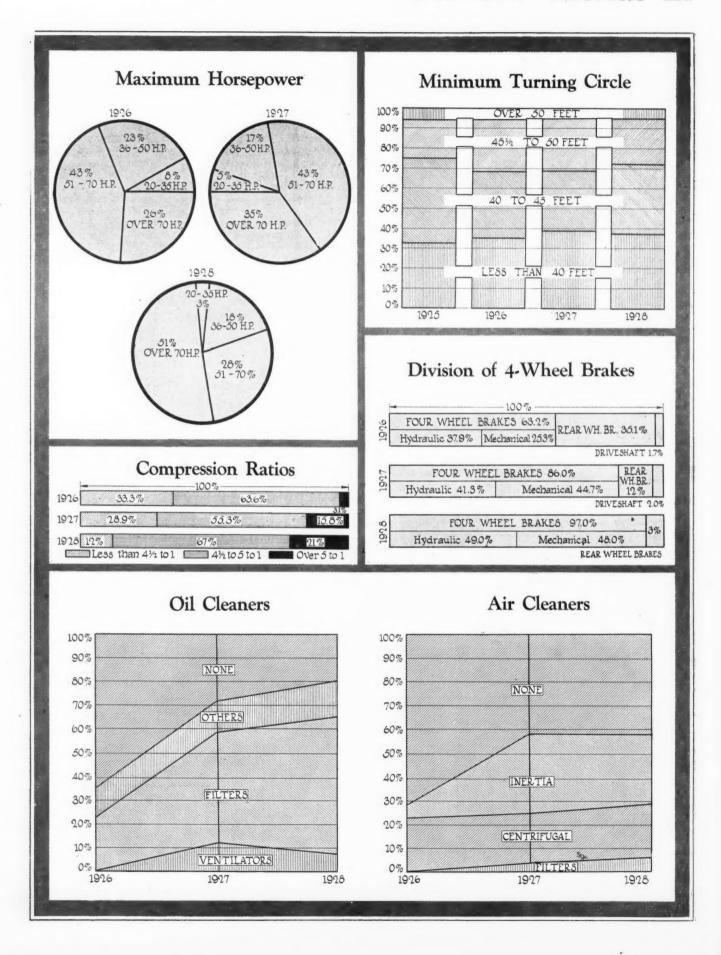
Total Registrations, Gains, and Persons per Motor Vehicle

State	Total Registrations	Gains 1/ to 1/1/ Actual	1/27 /28 Per Cent	Persons per Moter Vehicle	State	Total Registrations	Gains 1 to 1/1 Actual	/1/27 /28 Per Cent	Persons per Motor Vehicle
New York	1,900,866	85,429	4.7	6.0	Colorado	268,026	15,239	6.0	4.0
California		99,480	6.2	2.6	Louisiana	255,000	15,500	6.5	7.6
Ohio		60,418	4.0	4.3	Oregon	246,623	11,634	5.0	3.6
Pennsylvania		105,356	7.2	6.2	Alabama	243,539	17,888	7.9	10.5
Illinois	,438,985	68,482	5.0	5.3	West Virginia		20,041	9.1	6.9
Michigan	1,156,344	37,559	3.4	3.9	Mississippi		16,603	7.9	7.9
Texas		63,784	6.1	4.9	Arkansas	206,568	*2,851	*1.4	9.3
Indiana		41,281	5.4	4.1	South Carolina	199,794	18,827	10.4	9.2
New Jersey	712,402	61,511	9.5	5.3	South Dakota	170,592	2,362	1.4	4.1
Iowa		17,793	2.6	3.4	Maine	164,250	13,334	8.8	4.8
Wisconsin	698,944	36,616	5.5	4.2	North Dakota	160,696	2,874	1.8	4.0
Massachusetts	696,107	6.514	0.9	6.1	Dist. of Columbia	126,136	*3,656	*2.8	4.3
Missouri	678,564	27,214	4.2	5.2	Rhode Island	119,335	10,190	9.3	5.9
Oklahoma	644,450	134,450	26.4	3.7	Montana	112,756	8,810	8.5	6.4
Minnesota	640,102	15,624	2.5	4.2	ldaho	103,000	7,139	7.4	5.2
Kansas	501,901	10,625	2.2	2.7	New Hampshire	96,000	6,999	7.8	4.7
North Carolina	422,544	36,781	9.5	6.9	Vermont	79,510	5,639	7.1	4.4
Florida	391,168	*25,762	*6.2	3.5	Utah		*2,657	*3.2	6.6
Washington	389,409	22,316	6.1	4.0	Arizona		953	1.3	6.3
Nebraska	373,912	6,074	1.7	3.7	New Mexico	60,000	5,659	10.4	6.5
Virginia	335,275	14,908	4.7	7.6	Wyoming	52,222	2,589	5.2	4.6
Georgia	296,567	22,530	8.2	10.7	Delaware	46,707	2,289	5.2	5.2
Tennessee	295,530	15,891	5.7	8.4	Nevada	25,851	1,837	7.7	3.0
Kentucky	285,099	6,762	2.4	8.9	_				
Maryland	284,267	35,211	14.1	5.6	Total 2	3,253,882	1,206,925	5.5	5.1
Connecticut	282,892	21,981	8.4	5.8	* Loss.				

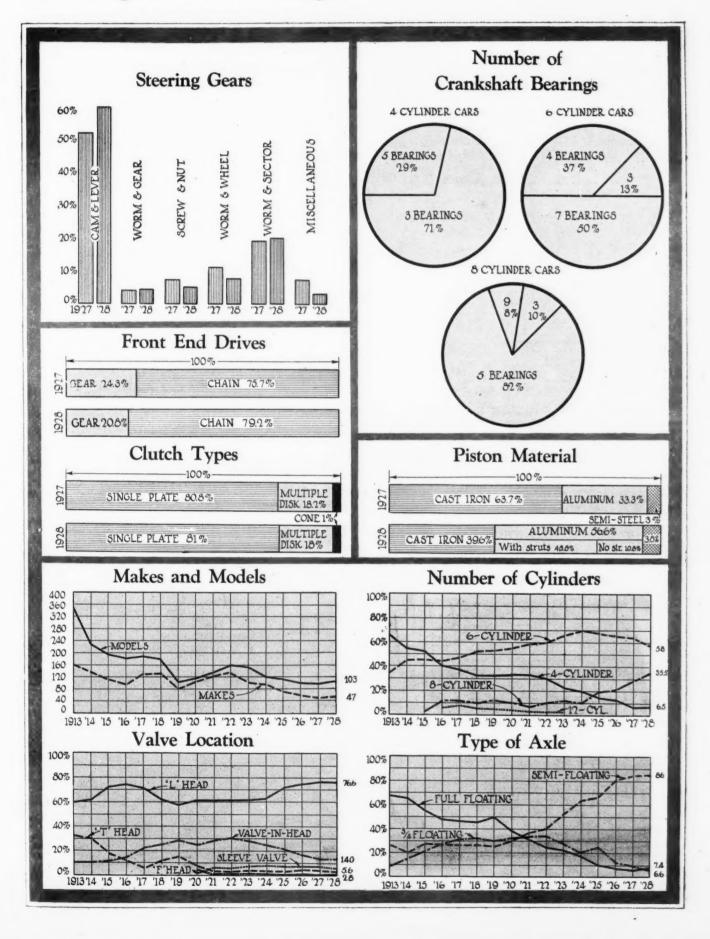
Motor Vehicle Registrations, 1915 to 1927

	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927
Alabama	11,925	21,636	32,873	46,171	58,898	74,637	82,343	90,052	126,642	157,262	194,580	225,651	243,539
Arizona	7,318	12,124	19,890	23,905	28,979	34,559	35,049	38,034		57,828	68,029	73,574	74,527
Arkansas	8,021	15,000	28,693	41,458	49,450	59,082	67,446	86,425		141,983	183,764	209,419	206,568
California	163,795	232,440	306,916	364,800	477,450	568,892	673,830	861,805				1,600,475	1,699,955
Colorado	27,568	43,296	66,850	83,244	104.865	127,549	145,739	162,328	189,356			252,787	268.026
Connecticut	43,985	61,855	85,724	92,605	109,651	119.134	137,526	154,675		214,318	248,474	260,911	282,892
Delaware	4,657	7,102	10,700	12,955	16,152	18,300	21,413	24,560	29,977	35,136	40,681	44,418	46,707
Dis. of Col	8,009	13,118		30,490	35,400	39,712	61,745	85,425	103,171	80,720	93,612	129,792	126,136
Florida	10,850	20,718	27,000	54,186	55,400	73,914	97.837	115,891	160,000	194,196	260,720	416,930	391,168
Georgia	25,671	47,579	70,357	99,800	127,326	144,422	131,942	145,584	173,794	209,300	244,871	274,037	296,567
Idaho	7,071	12,999	24,768	32,289	42,220	50,873	51,264	53,874	62,379	69,225	81,484	95,861	103,000
Illinois	180,832	248,429	340,292	389,620	478,438	568,759	670,434	786,190		1,123,724	1,263,177	1,370,503	1.438,985
Indiana	96,915	139,317	192,192	227,160	277,255	332,707	400,342	469,939	353,342	650,219		772,215	813,496
Iowa	152,134	198,602	254,317	278,313	363,857	437,300	460,528	500,148	576,398	620,906	657,567	689,036	706,829
Kansas	72,520	112,122	159,343	189,163	227,752	265,396	291,309	327,194	375,594	410,891	457,033	491,276	501,901
Kentucky	19,500	31,700	47,416	65,870	90,641	112,685	126,371	154,021	198,347	231,784	260,754	278,337	285,099
Louisiana	11,380	17,000	28,394	40,000	51,000	66,000	80,500	102,284	138,500	178,000	207,000	239,500	255,000
Maine	21,545	30,972	41,499	40,372	53,425	62,907	77,527	92,539	108,609	127,178	140,134	150,916	164,250
Maryland	31,047	44,245	60,943	74,666	95,634	116.341	140,572	165,624	209,938	195,581	230,684	249,056	284.267
Massachusetts.	102,633	136,809	174.274	193,497	247,183	304,631	360.732	385,231	566,150	572,315	654,338	689,593	696.107
Michigan	114,845	160,052	226,693	262,125	325,813	412,717	477,037	578,980	730,658	868,587	990,709	1.118,785	1,156,344
Minnesota	93,269	46,000	54,009	204,458	259,743	309,569	328,700	380,557	448,187	502,987	569,694	624,478	640.102
Mississippi	9,669	25,000	36,600	48,400	45,030	63,484	65,139	77,001	104,400	134,547	177,262	210,500	227,103
Missouri	76,462	103.587	147.528	188,040	244,363	296,919	346,437	392,969	476,373	544,635	602,900	651,350	678,564
Montana	14,499	24,440	42,696	51,037	59,325	60,646	58,785	62,649	73,828	79,695	94,656	103,946	112,756
Nebraska	59,140	100,534	148,101	175,409	192,000	223,000	238,704	256,654	286,053	308,713	338,718	367.838	373,912
Nevada	2,009	4.919	7.160	8.159	9,305	10,464	10.819	12,647	15,700	18,387	21,185	24,014	25.851
New Hamp	13,499	17,508	22,267	24,817	31,625	34,680	42,039	48,293	59,571	71,929		89,001	96,000
New Jersey	78,232	104,341	134,964	155,519	190,873	227,737	272,994	341,626	430,958	504,190	579,886	650,891	712,402
New Mexico	5,100	8,228	8,457	15,000	18,077	22,109	24,703	25,473	31,737	41,750	49,101	54,341	60,000
New York	234,032	317,866	411,567	463,758	571,662	669,290	812,031	1.002,293		1,412,879	1,613,141		1,900,866
N. Carolina	21,000	33,904	55,950	72,313	109,017	140,860	148,684	182,550	247,612	305,756	351,767	385,763	422,544
North Dakota	24,908	40,446	62,993	71,627	82,885	90,840	92,644	99,052	109,244	117,061	144,956	157,822	160,696
Ohio	181,332	252,431	346,772	412,775	511,031	615,397	720,632	859,504					1.570.418
Oklahoma	25,032	52,718	100,199	121,500	144,500	204,300	221,300	249,659	307,000	342,982	438,000	510,000	644,450
Oregon	23,585	33,917	48,632	63,324	83,332	103,790	118,325	134,299	166,412	192,629	216,324	234,134	246,623
Pennsylvania.	160,137	230,578	325,153	394,186	482,117	570,164	689,589	829,737	1,064,624		1,317,053	1,463,261	1.568,617
Rhode Island	16,362	21,406	37,046	36,218	44,833	50,375	54,957	66,466	85,480	90,652	102,476	109,145	119,335
S. Carolina	15,000	19,000	38,322	55,492	70,143	93,843	90,546	95,978	128,656	163,382	170,658	180,967	199,794
South Dakota.	28,784	44,271	67,158	90,521	104,628	120,395	119,274	125,238	131,720	142,280	168,118	168,230	170,592
Tennessee	22,738	30,000	48,000	63,000	80,422	101,852	117,025	135,716	173,365	204,680	248,021	279,639	295,530
Texas	90,000	197,687	213,334	251,118	331,310	427,693	467,616	526,238	688,899	834,040	968,406	1,047,202	1.110.986
Utah	9,177	13,507	24,076	32,273	35,236	42,578	47,523	49,156	66,025	69,227	72,490	81,633	78,976
Vermont	11,499	15,671	20,369	22,655	26,807	31,625	36,965	43,881	52,776	61,179	69,576	73,871	79,510
Virginia	21,357	35,426	55,000	72,228	94,120	134,000	141,000	169,000	219,092	261,643	281,100	320,367	335,275
Washington	38,823	60,734	91,337	117,278	148,775	173,920	185,359	220,957	261,224	294,812	332,442	367,093	389,409
W. Virginia	13,279	20,571	31,300	38,750	50,203	78,862	93,894	112,763	162,191	190,134	217,069	221,001	241.042
Wisconsin	79,791	115,637	164,531	196,844	236,981	293,298	341,841	388,044	457,271	525,221	596,373	662,328	698,944
Wyoming	3,976	7,125	12,523	16,200	21,371	23,926	26,619	30,637	39,831	43,639	47,712	49,633	52,222
Totals 2	2.494.912	3.584.567	4.970.671	6.105.588	7.596.503	9.206.141	10,505,630	12.299.770	15 312 658	17 605 495	19 857 915	22 046 957	92 952 000

Current Trends in



Passenger Car Design





American Passenger

	G	ENE	RAL		•	CLUT	СН				GEAR	SET						REAR	AXLE			
		(Lbs.)				b0	1	Facings						Univer-					By			
MAKE AND MODEL	Wheelbase (In.)	Chassis Weight (L	Tire Size	Make and Model	Туре	Number of Driving and Driven Disks	Maximum Dia.(In.)	Minimum Dia.(In.)	Number	Make	Location	Number of Forward Speeds	Low Gear Ratio	sals Type and Make	Make	Type	Final Drive	Gear Ratio	Propulsion Taken F	Torque Taken By	Minimum Road Clearance (In.)	Differential Make
Auburn	125		28x5.25 30x6.00 30x6.20	Long9C Long10A	P	2-1 2-1 3-2	834 934 734	614 614 512	2 2 4	War War War	Eng Eng	3 3 3	3.11	m-U-P m-U-P m-U-P	Col	½F ½F ½F	SB SB	4.7	Spr Spr	Spr Spr	81/2	BLC BLC. BLC.
Buick	120		31x5.25 33x6.00 33x6.00	Own Own	MD	5-5	73/4 73/4 73/4	5 ⁸ / ₄ 5 ⁸ / ₄ 5 ⁸ / ₄	10 10 10		Eng Eng	3 3 3	3.20	m-Own m-Own m-Own	Own	FF	SB SB	4.90	TT TT	TT TT	93/4	BLC. BLC. BLC.
Cadillac	124 107 153‡ 156‡ 172 ³ 4‡ 185 ¹ ⁄ ₂ °‡	1880 2600 1700 1645 2420 3320	32x6.75 32x6.00 30x5.00 32x6.00 30x4.50 29x4.75 28x5.25 30x6.00 30x6.75 33x6.75	Own	P P P P P	2-2 2-1 2-1 2-1 1-1 2-1 2-1 2-1 7-7	91/2 97/8 87/8 97/8 97/8 97/8 97/8 11 81/2	63/4 61/8 63/4 61/4 27/8 63/4 61/2 63/4 61/2 63/8	4 2 2 2 2 1 2 2 2 1 2 2 1 4	Own Own Own Own Own Own	Eng Eng Eng Eng Eng Eng Eng Eng Eng	3 3 3 3 3 3 3 3 3 3 3 3 3 3	2.44 2.78 2.44 3.32 3.17 3.17 3.02	m-Spi. f-Own f-Own f-Own m-Own f m-U-P m-U-P f-Spi	Own Own Own Own Own Own Tim	% F. 1/2 F. 1/2 F. 1/2 F. 1/2 F. 1/2 F. 1/2 F. 1/2 F. 1/2 F. 1/2 F.	SB SB SB SB SB SB SB SB SB	4.45 4.9 4.45 3.82 4.70 4.60 4.3° 4.08° 4.23	Spr	TTSprSprSprSprSprSprSprSprSprSprSprSprSprSpr	10½ 10½ 9¼	BLC. Own. Own. Own. Own. Own. Own. Own. Tim.
Davis	116 108 116 112 107 110 119½ 125	1680 1650	30x6.00 32x6.00 31x5.25 29x5.00 31x6.00 29x5.00 29x5.00 29x5.00 29x5.50 32x6.20	B&B.10QL B&B.10QL Own Own B&B Own Own Own Own Long	P. P. P. P. P. P. P. P. P. MD.	2-1 2-1 2-1 2-1 2-1 2-1 2-1 2-1 2-1 2-1	10 97/8 97/8 97/8 97/8 97/8 91/2 91/2 91/2	7 634 634 634 634 71/2 71/2 71/2	2 2 8s 8s 8s 8s	Own Own Own Own Own	Eng Eng Eng Eng Eng SeU Eng Eng Eng Eng	3 3 3 3 3 3 4 3 4 3 4	3.11 3.08 3.32 3.32 4.18	m-Cle m-Mec m-Own m-Mec m-Spi m-Spi m-Spi m-Spi m-Spi	Col Col Own Own Own Own Own Own Col Col	12F. 12F. 12F. 12F. 12F. 12F. 12F. 12F.	SB SB SB SB SB SB SB SB SB	4.45 5.10 4.17 3.76 50/11 4.45 4.87 4.44 3.72 4.7 4.45	Spr Spr Spr	Spr	93/8 93/8 93/8 83/8	Col. Col. Own. Own. Own.
Elcar. 6-70 Elcar. 8-78 Elcar. 8-82 Elcar. 8-91, 8-92 Erskine. 6 Essex. Super 6	123 123 132	1700 1800	28x5.25 28x5.25 30x6.00 32x6.00° 29x4.75 30x5.00	Long. 8F Long. 8F Long. 9C Long 10A-1 Long. 5353 Own	IP	12-1	8 ³ / ₄ 8 ³ / ₄ 9 ³ / ₄ 7 ³ / ₄ 8 ³ / ₄ Ck	5 ³ / ₄ 5 ³ / ₄ 7 5 ¹ / ₂ 5 ³ / ₄ Ck	2	W-G W-G W-G W-G W-G	Eng Eng	3 3 3 3 3 3	3.07 3.11 3.11 3.06	m-Cle m-Cle m-Cle m-Spi m-Spi	Sal Sal Sal Tim	1/2F 1/2F 1/2F 1/2F 1/2F	SB SB SB SB SB	4 0	Spr	Spr Spr		BLC. BLC. BLC. Tim
Falcen Knight12 FordA Franklin Series 12 Franklin Series 12	103½ 119		29x5.50 30x4.50 32x6.00 31x6.20	B&B Own B-L	P MD P	2-1 5-4 2-1 2-1	87/8 97/8 97/8	6½ 6¾ 6¾ 6¾	2 8 2 2	W-M Own Own	Eng	3 3 3	2.3 3.62 3.62	m-Mec. m-Own. m-Spi. m-Spi.				3.7	Spr TT Spr Spr	Spr TT Spr Spr	9 91/2	Own. Own. Own. Own.
Gardner	122 125 130 110½ 114 119 129		31x6.00 31x6.00 30x6.20 29x5.00 29x5.25 29x5.50 31x6.00 31x6.20	B&B9Q. B&B9Q B&B'10QL Long 8F Long28AM Long28AM	P P P P	2-1 2-1 2-1 2-1 2-1 3-2	87/8 87/8 97/8 83/4 83/4	61/8 61/8 63/4 53/4 53/4 53/4	2 2 2 2 2 4 4	W-G. W-G. W-G. W-G.	Eng Eng Eng Eng Eng Eng Eng	3 3 4 4 4 4 4	3.11 3.11 3.11 3.06 3.28 3.28	m-Cle m-Cle m-Cle m-U-P m-U-P m-U-P	Col Col Sal Cla	12F. 12F. 12F. 12F. 12F. 12F.	SB SB SB SB SB SB SB	4.63 4.45 3.9	Spr Spr Spr Spr Spr Spr Spr Spr	Spr Spr Spr	9 9 8 81/2 81/4	N-P N-P
Hudson O Hudson S Hupmobile Cent. 6 Hupmobile 125-8 Hupmobile Cent. 8	$127\frac{3}{6}$ $118\frac{1}{2}$ 114 125		32x6.00 31x6.00	Own Own B&B Long	P P P P	1-1 1-1 2-1 2-1 2-1	Ck 87/8 83/4	Ck 61/8 61/4	2	Own Det	Eng.	3 3 3 3	3.04 3.04 3.11	m-Spi m-Spi m-Mec. m-U-P. m	Own Own Own Own	1/2F 1/2F 1/2F 1/2F	SB SB SB SB	4.73 4.91° 4.36	Spr Spr Spr	Spr Spr Spr Spr Spr	8/4	Own. Own. BLC. BLC.
JordanJE JordanR JordanJ-1	107		30x6.00 28x5.25 32x6.00	Long Long	P P	1-1 1-1 1-1	97/8	7½ 7½	2	War War War	Eng.	3 3 3	3.12 3.07 3.12	m-Alm. m-Spi m-Alm.	Tim Col Tim	½F ½F ½F	SB Wo SB	4.45 4.6 4.64°	Spr	Spr Spr		Tim BLC. Tim
Kissel	125		30x6.00 31x6.20 30x6.00 30x6.75	B&B. 9QL B&B 10QL B&B 10QL B&B 11QL	P	2-1 2-1 2-1 2-1 2-1	878 978 978 1078	6½8 6¾ 6¾ 6¾ 6¾	2 2 2 2 2	W-G W-G W-G	Eng.	3 3 3	3.11	m-Mec. m-Mec. m-Mec. m-Mec.	Col	1/2F 1/2F 1/2F 1/2F	SB	4.6° 4.8	Spr.	Spr Spr Spr	834	Col Col Col Tim
	125° 136 122 130 138	2600 4660	32x6.20° 32x6.75 31x6.00 32x6.00 33x6.75 33x6.75	OwnB&B. 10QL B&B 11QL Own	P	2-2 2-1 2-1	9½ 784 978 1078 13½ 13½	534 684 634 914	12 2 2 2 2 2	Own Own Det War Own	Eng Eng	3 3 3 4	3.11 3.32 4.0	m-Spi m-Spi m-Spi m-Spi m-Spi	Ada Sal Eat Own.	34F. FF. 12F. 12F. 12F. FF.	SB SB SB SB SB	4.58 4.77 4.81. 4.5°	TT Spr Spr Spr RR	TT Spr	1	BLC. Own. M-P. Sal Eat Own.
Marmon	120 136 131 141 ¹ / ₄ 110 113 120	2075	29x5.25 29x5.50 32x6.75 33x6.20 33x6.75 29x4.75 30x5.25 29x5.50 31x6.20	Own B&B B&B 11QL B&BFJ314 B&B9Q	P P P	1-1 2-1 2-1 2-1 2-1 2-1 2-1 2-1	97/8	678 678 714 684 784 618 634 634	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Own W-G W-G W-G W-G	Eng. SeU. Eng. Eng.	3 3 3 3 3 3 3 3	3.07 3.36 3.36 3.11 3.36 3.07 3.07 3.07	m-Spi m-Spi m-V-M m°-Cle. m-Spi m-Spi m-Spi m-Mec.	Sal Sal Own. Tim Col Col Col	1/2F. 1/2F. 1/2F. 1/2F. 1/2F. 1/2F.	SB Hyp. SB SB SB SB SB SB SB	4.9 5.1 3.53 4.89 4.9 4.9	Spr Spr Spr	Spr Spr TT TA Spr Spr Spr Spr	81 97 91 91 91 9	Fair BLC. Tim Col Col Col Col

ABBREVIATIONS:

**—Where two ratios are given, the first is at ends; the second center of cam.

-Others also.

†—Vacuum Booster.

—Overall Length.

A-Artillery.

Ads—Adams.

Alsm—Alemite.

AmW—American Wire Wheel.

A-Z-Alemite-Zerk.

B&B—Borg & Beck.

B-Fw—Both Internal and External Four Wheels.

BLC—Brown Lipe Chapin.

Bim—Bimel.

Ca—Cantilever.

carS—Carbon Steel

Ck—Cork Inserts.

Cle—Cleveland.

Clev—Cleveland Welding.
C&L—Cam and Lever.
Col—Columbia.
Cpl—Campbell.
CR—Central Reservoir.
Det—Detroit.
DH—Direct Hydraulic.
DM—Direct Mechanical.
dp—Double plate
DT—Double Transverse.
Eat—Eaton.

El—Elliot.
Eng—Unit with Engine.
Ex-Dr—External Driveshaft.
Ex-Fw—External Four Wheels.
Ex-Rw—External Rear Wheel.
½E—½ Elliptic.
½F—½ Floating.
¾F—¾ Floating.
I—Fabric.
Fair—Fairmount Machine Co
FE—Full Elliptic.

FF—Full Floating.
Fire—Firestone.
Gem—Gemmer.
G&H—Guay & Haigh.
Hay—Kelsey-Hayes.
Hyd—Hydraulic.
Hyp—Hypoid.
L—"!" Section.
In-Fw—Internal Four Wheels.
In-Rw—Internal Rear Wheels.
Jac—Jacox.

Car Chassis



	В	RAKI	ES	/			F	RO	NT A	AXLE		ST	EERIN	IG GEA	AR .		SPR	INGS	3	FRA	ME	CHAS	RI-	Ri	MS	WH	EELS	
	Foo	t		Hai	nd					oriz.(°)					3	1	Front	_	Rear			CATI	ION					MANE
Type and Location	Braking Area (Sq. In.)	Application	Optional Four Wheel Brakes	Type and Location	Braking Area (Sq. In.)	Shackles Type		Axle Section Type	Angle of Pivot Pin with Vertical (°)	Angle of Wheel Spindles with Hori	AxleEnd Type	Make	Type	Ratio (to one) **	Minimum Turning Circle Diameter (Ft.)	Type	Length and Width (In.)	Туре	Length and Width (In.)	Material	Make	Make	Type	Diameter and Width (In.)	Make	Туре	Make	MAKE AND MODEL
In-Fw. In-Fw. In-Fw.	152 148 178	DH. DH.	No No	Ex -Dr Ex -Dr Ex -Dr	37 49 49	M M M	Col. Col. Col.	I. I. I.	7 7 7	2 2 2	RE	Ross.	C&L C&L C&L	Var Var		½E. ½E. ½E.	38 ³ / ₈ x2 38 ³ / ₈ x2 38 ³ / ₄ x2	1/2E 1/2E 1/2E	56 ³ / ₄ x2 ¹ / ₄ 56 ³ / ₄ x2 ¹ / ₄ 56 ³ / ₄ x2 ¹ / ₄	St St	Smi. Smi. Smi.	Bijur Bijur Bijur	CR. CR.	18x211 18x211 18x211	Fire. Fire.	A A	Bim Bim Mot	Auburn
Ex-Fw Ex-Fw Ex-Fw	270 350 350	DM.	No	In-R w In-Rw In-Rw	1321/2	M	Own Own Own	I.	$7\frac{1}{2}$ $7\frac{1}{2}$ $7\frac{1}{2}$	21/2	RE	Jac Jac Jac	W&N. W&N. W&N.	15.15 16.2 16.2	37½ 41½ 43	1/2E. 1/2E. 1/2E.	36½x2 36¾x2 36¾x2	Ca Ca	48x2½ 48x2½ 48x2½	carS carS	Smi.	Zerk Zerk Zerk	PG. PG. PG.	21x4 21x4½ 21x4½	Jax Jax Jax	A A	Jax Jax Jax	Buick 115 Buick 120 Buick 128
B-Fw Ex-Fw Ex-Fw B-Fw Ex-Rw Ex-Fw Ex-Fw In-Fw	315 190 128¼ 202⅓ 202⅙	DM † DM † DM † DM. DM.	No No No No	In-Rw Ex- Dr Ex- Dr Ex- Dr In-Rw Ex- Dr Ex- Dr Ex- Dr Ex- Dr In-Fw.	46 31 46 70 42 ³ / ₄	M M M R R R	Own Own Own Own Own Own Own Own Tim	I. I. I. I. T. T.	5 51/4 0 51/4 71/6 0 7 7 6 6	21/4 21/2 21/4 11/2 2 2 2 2 2 2 2 2 2 2 2 2 3 2 3 2 3 2 3	RE RE RE RE RE RE	Gem. Own. Gem. Gem. Gem. Ross.	W&S W&S W&S C&L	11 14½ 9½ 10 14	50 44 36 44 48	1/2E. 1/2E. 1/2E. 1/2E. 1/2E. 1/2E.	42x2 ¹ / ₄ x2 34x2 x2 36x1 ³ / ₄ 35½x1 ² / ₄ 38 ₁ 7 ₆ x2 40½x2 41½x2½ 40x2 ¹ / ₂	1/2 E.	60x2½ 59¼x2¼ 51x2 59¼x2¼ 54x1¾ 53½x1¼ 53½x2 57¾x2 57¾x2 58x2¼ 62x2½	St	Mid Mid Mid Smi.	Alem Bowen Bowen Bowen Alem Zerk Zerk Zerk Alem	PG. PG. PG.	20x6 20x4 20x4 20x4 21x2 21x2 20x3 20x3 18x4 18x4 18x4 21x4	Fire	A		Cadillac341 ChandlerBig 6 ChandlerSpec6 Chandler Rey. St. 8 Chervolet. Chrysler52 Chrysler62 Chrysler72 Chrysler72 Chrysler
Ex-Fw Ex-Fw Ex-Rw In-Fw. In-Fw. In-Fw. In-Fw. In-Fw. Ex-Fw —-Fw.	201 178½ 289½ 187¼ 152 207 207 225½	DM DH DH DM	No No No No No No No	Ex- Dr Ex- Dr In-R w Ex- Dr In-R w Ex- Dr In-Fw. In-Fw. In-Fw. Ex- Dr Ex- Dr	48 123½ 43¾ 93½ 43¾ 207 207 225%	M M M M M M	Own Own Own Own Own	I. I. I. I. I.	6	2 2	RE RE RE RE RE RE	Ross. Gem. Gem. Gem. Own. Own. Ross.		11	38 36 37 40	LEE	40x2	1/2 E. 1/	54x134	St St St St	Own Own Own	Alem Alem Zerk Zerk Zerk Zerk Alem Alem	PG. PG. PG. PG. PG. PG. PG.	21x 19x 19x 19x 19x3 ¹ / ₂ 19x3 ¹ / ₂	hays° hays° hays°	A Opt.	Mut.	Davis 99 Diana St. 8 Dodge Brothers 124 Dodge Brothers 128 Dodge Bro. Senier 6 Dodge Bro. Victory 6 Durant 65 Durant 75 duPont E duPont F
Ex-Fw Ex-Fw Ex-Fw Ex-Fw In-Fw. In-Fw.	168 244 320	DM	No	Ex- Dr Ex- Dr Ex- Dr Ex- Dr In-Fw. In-Fw.	49%	F. F. M	Sal Sal Sal Sal Tim Own	I. I. I.	7 6 7 6	1½ 2½	RE RE RE	Ross. Ross. Ross. Gem.	C&L C&L C&L C&L W&S W&W.	Var	39	1/2E. 1/2E. 1/2E.	38x2 38x2	1/2E. 1/2E. 1/2E.	51x2¼ 56x2¼ 56x2¼ 58x2½ 58x2½ 52x1¾ 54½x	cars	Mid	Bowen Alem	PG.	20x4 20x3½	Hays Hays Hays Hays Hays	A A A	Hays Hays Hays Hays	Elcar 6-70 Elcar 8-78 Elcar 8-82 Elcar 8-91, 8-92 Erskine 6 Essex Super 6
In-Fw. In-Fw. In-Fw. In-Fw.	168	DM DH	No	In-Fw. In-Fw. Ex- Dr Ex- Dr		M	Own Own Own Own	I. T.	77	2	RE RE	Own.		11.25	34 34 39	1/2E. T4E FE. FE.	34½x1½ x1¾ 36x1¾	1/2E. T4E FE	512x12 x214 38x134	St Wd.	Own Own	Zerk Zerk	PG. PG.	19x2 ⁷ / ₈ 20x4 19x4	Jax Mot	A W A	Own. Mot	Falcon Knight 12 Ford A Franklin Series 12 Franklin Series 12
In-Fw. In-Fw. In-Fw. Ex-Fw Ex-Fw In-Fw. In-Fw. In-Fw.	228 187 187	DH DH DH DH DH	No No No No No No	Ex- Dr Ex- Dr Ex- Dr Ex- Dr Ex- Dr Ex- Dr Ex- Dr Ex- Dr	48 48 48 49 49	M M M M M	Col. Col. Col.	I.I.I.I.I.I.I.I.I.II	7 7 7 7	2 2	RE RE RE	Ross. Ross. Gem.	C&L.	16	40 43 36	½E. 1∕2E.	36x2 36x 38x2	1/2E. 1/2E. 1/2E. 1/2E.	58x 58x2 ¹ / ₄	St	Mid Mid	Zerk Zerk Zerk Zerk	PG	19x 19x4½	Mot Mot Clev.	A A A	Mot Mot Mot	Gardner
In-Fw. In-Fw. B-Fw. Ex-Fw. In-Fw.	404/2	DH	140.	EX- DE	1527/8 1527/8 1331/6	M M M		I. I.	6½ 6½	2½ 2½ 2½	RE RE RE	Gem. Gem. Ross. Ross.	W&W. W&W. C&L C&L C&L	18 18	42	1/2E. 1/2E. 1/2E. 1/2E.	39x2 ¹ / ₄ 39x2 ¹ / ₄ 37x2 37x2	1/2E. 1/2E. 1/2E. 1/2E. 1/2E.	5711x21 5711x21 54x2 561/2x 571/4x2	St St St St	Own Own Smi. Smi.	Alem Alem Alem	OW. OW. PG: PG. PG.	19x4½ 19x4½ 19x2 20x 19x4½	Fire Fire Hays	A A A°	Mot.	Hudsen O Hudsen S Hupmebile Cent. 6 Hupmebile 125-8 Hupmebile Cent. 8
Ex-Fw Ex-Fw Ex-Fw	300 238 300	DH DH DH	No No No	Ex- Dr Ex-Dr Ex- Dr	63 38 63	M M M	Tim Col. Tim	I. I. I.			RE	Gem. Gem. Gem.	W&S W&W. W&W.	18 13 11½	35	1½E. 1½E. 1½E.	37x2 36x2 37x2	½E. ½E. ½E.	55 ⁸ / ₄ x2 55 ¹ / ₄ x2 55 ⁸ / ₄ x2	St St St	Mid Mid Mid	Alem Alem Alem	PG. PG. PG.	18x4 18x4 20x	Fire Fire Mot	A	Mot	Jordan JE Jordan R Jordan J-1
Ex-Fw Ex-Fw Ex-Fw Ex-Fw	200 304 304 360	DH DH DH	No No No No	Ex- Dr Ex- Dr Ex- Dr Ex- Dr	$38\frac{1}{2}$ $38\frac{1}{2}$ $38\frac{1}{2}$ $38\frac{1}{2}$ 36	R R R	Col. Col. Col. Tim	I. I. I. I.	7 6	2	RE RE	Ross.	C&L C&L C&L C&L	Var	41	1/2E. 1/2E. 1/2E. 1/2E.	38x2 40x2 ¹ / ₄ 38x2 40x2 ¹ / ₄	1/2E. 1/2E. 1/2E. 1/2E.	57x2 60x2¾ 57x2 60x2	St St carS St	Smi. Smi. Smi. Smi.	Alem Alem Alem Alem	PG. PG. PG. PG.	18x4 18x4½ 18x4½ 18x4½	Fire Fire Fire Fire	A A A	Mut.	Kissel 6-70 Kissel 8-80 Kissel 8-80 S Kissel 8-90
B-Fw. In-Fw. In-Fw. In-Fw. In-Fw. B-Fw.	280 444 231 308 360 42134	DM DM DM DM DM	No No No No No No	InRw. Ex-Rw In-Rw In-Rw In-Rw In-Rw	130 202 115½ 154 180 147½				7½ 7 7 7 7 7½	1½ 2 1½	RE RE RE RE	Own. Ross. Ross. Ross. Ross.	C&L C&L C&L	121-16 141-17 141-17 141-17	40 41 45 48	1/2E. 1/2E. 1/2E. 1/2E. 1/2E.	39x2 37 4x2 37 4x2 40x2 40x2 40x2	1/2E. 1/2E. 1/2E. 1/2E. 1/2E. 1/2E.	58x2 60x 58x2 58x2 ¹ / ₄ 60x2 ¹ / ₂ 50x2 ¹ / ₄	St St St St St	Mid Mid Mid Mid Mid	Alem Alem Zerk Zerk Zerk	PG. PG. PG. PG. PG.	20x4½ 20x 19x2¼ 20x3⅓ 21x3¾ 21x3¾	Jax	A°	Hava	La Salle. Lincoln
In-F w In-Fw. In-Fw. Ex-Fw Ex-Fw Ex-Fw Ex-Fw Ex-Fw	224 224 360 288 392 11 200 202 202	DM DM DH DH DH DH DH	No No No No No No No No	In-Fw. In-Fw. I- Rw1 Ex- Dr In- Rw Ex- Dr Ex- Dr Ex- Dr Ex- Dr Ex- Dr	224 224 80 49½ 235 36 36 36	R R M	Sal Sal Own Tim Col. Col. Col.	I. I. Į.	7 7 637 6 6 7 7 7	2 2 237 212 212 212 2 2 2	RE RE RE RE RE RE	Ross. Ross. Ross. Ross. Ross. Ross. Ross. Ross.	C&L C&L W&R. C&L C&L C&L C&L C&L C&L	14 15.15 18 Var Var 12-15 12-15 12-15	40	1/2E.	38 ½ x 1¾ 38 ½ x 2 39 ½ x 2 39 x 2 40 x 2 ¼ 36 x 2 36 x 2 36 x 2 36 x 2	1/2E. 1/2E. 1/2E. 1/2E. 1/2E. 1/2E. 1/2E.	56%x12 567x2 45x2½ 582x2½ 64x2½ 54x2 54x2 54x2 54x2	carS St St St St St St	Mur Hyd Hyd Mid Mid Mid Mid	Zerk Zerk Bowen Bowen Bowen Alem Alem Oilom.	PG. CR. CR. CR. PG. PG.	19x4 19x4 20x4½ 21x4½ 21x4½ 20x4 20x4 19x 19x	Fire Fire Jax Fire	A A A D A°	Hays Hays Bim Bim Mot Mot Mut.	Marmon. 68 Marmon. 78 Marmon. E-75 McFarlan. St. 8 McFarlan. TV-6 Moon. 6-60 Moon. 6-72 Moon. 8-80

Jax—Jaxon.

m—Metal.

MD—Multiple Dry Disk.

Mec—Mechaniss.

Mid—Midland.

Mot—Motor Wheel.

Mur—Murray.

Mut—Mutual.

NP—New Process.

OC—Oil Cups.
OG—Oil and Grease Cups.
Oilom—Oilometer.
OW—Oil Cups with Wick Feed.
Opt—Optional.
P.—Single Dry Plate.
PG—Pressure Gun.
PJon—Phineas Jones.
PS—Pressed Steel.
P&B—Parish & Bingham.
Pet—Peters.

R—Rubber.

RE—Reverse Elliott.

Rec—Rockford.

RR—Radius Rods.

R&S—Roller and Sector.

s—Segments.

Sal—Salishury.

SB—Spiral Bevel.

SeU—Separate Unit.

Smi—Smith.

Spec—Special.

Spi—Spicer.
Spr—Springs.
St—Steel.
T—Tubular.
TA—Torque Arm.
TT—Torque Tube.
Ti4E—Transverse Semi-Elliptic.
Tim—Timken.
U-M—Universal Machine.
U-P—Universal Products.

Var—Varies.
W—Wire (Wheels).
War—Warner Corp.
W-G—Warner Gear.
W-Wood.
W-Worm.
W&G—Worm & Gear.
W&N—Worm and Nut.
W&R—Worm and Roller.
W&S—Worm and Sector.
W&W—Worm and Wheel.



American Passenger Car

	GE	ENER	AL		(CLUT	СН				GEAR	SET	-					REAR	AXLE			
MAKE AND	(In.)	tht (Lbs.)	Tire	Make		Driving Disks		Dia.(In.)		Make		spa	tio	Univer- sals Type and	Make				Taken By	ı By	P 3	fake
MODEL	Wheelbase (I	Chassis Weight	Size	and Model	Туре	Number of I	Maximum Dia.(In.)	Minimum Dia	Number	Wake	Location	Number of Forward Spee	Low Gear Ratio	Make	Mare	Туре	Final Drive	Gear Ratio	Propulsion Ta	Torque Taken	Minimum Road Clearance (In.)	Differential Mak
Nash Std. 6 Nash Special Nash Advanced	1121/2		30x5.00 30x5.25 32x6.00	B&B. 9Q B&B B&B. 11N	P	2-1 2-1 2-1	87/8 97/8 107/8	6½ 73¼ 6¾	2 2 2		Eng Eng Eng	3	3.2	f-Own m-Own m-Own	Own	1/2F	SB SB		Spr Spr	Spr Spr	9	N-P Own. Own.
OaklandAA 6 OldsmobileF28 Overland(4)Whippet	1131/2	1600	29x5.50 28x5.25 28x4.75	Own B&B B&B 3Q	P	1-1 2-1 2-1	87/8 87/8 77/8	$ \begin{array}{c} 5\frac{1}{2} \\ 6\frac{1}{8} \\ 5\frac{1}{8} \end{array} $	2 2 2	Mun Own Own	Eng Eng Eng	3 3 3	3.0 3.0 3.2	m-Mec. m°-U-P m-Mec.	Own Own	1/2F	SB SB	4.81		Spr Spr	8	BLC. Own. N-P
Packard 526 Packard 533 Packard 443 Peerless 6-60 Peerless 6-80 Peerless 6-91 Peerless 8-69 Pierce-Arrow 81 Pierce-Arrow 36 Pontiac 6-6	133 143 116 116 120 133 ¹ / ₂ ° 130 138	3025 3530 2090 3070	32x6.00 32x6.75 32x6.75 29x5.25 31x6.00 31x6.00 33x6.20 32x6.00 33x6.75 29x4.75	OwnOwnOwnB&B.10QLB&B.11QLB&B.11QLB&B.0wnOwnOwnOwnOwn	dp	2-1 3-2 2-1 2-1 2-1 2-1 2-1	984 934 934 978 978 1078 1078 1031 878	61/4 61/4 61/4 63/4 63/4 63/4 63/4 51/2	4 4 4 2 2 2 2 2 2 2 2 2	Det Det Own B-L Own	Eng Eng Eng Eng Eng Eng SeU	333333333333333333333333333333333333333	3.3 3.3 3.1 3.1 3.1 3.3	5 m-Mec. 5 m-Mec. 4 m-Mec. 1 m-Spi. 1 m-Spi. 1 m-Spi. 3 m-Spi. . m-Spi. . m-Spi. 3 m-Own.	Own Col Col Col Eat Tim Own.	12F. 12F. 12F. 12F. 12F. 12F.	Hyp SB SB	4.67° 4.33° 4.44 45/11° 51/12° 4.42 4.45 4.29	Spr Spr Spr Spr Spr Spr Spr	Spr	932	Col Col Col Eat
Reo Flying Cloud Reo Wolverine Roamer8-78 Roamer8-80 Roamer8-88 Rolls Royce N. Ph. Rolls Royce Si. Gh.	114 120 126 136 146½°		30x6.20 28x5.25° 32x6.00 32x6.20 33x6.75 33x6.75	Long. B&B. B&B. B&B. Own. Own.	P P P P	2-1 2-1 2-1 2-1 2-1 2-1 2-1	984 978 878 878 934 10	61/4 63/4 61/8 63/4 63/4	1 2 2 2 2	Own W-G W-G W-G Own	Eng Eng Eng SeU	3 3 3	3.2	m-Mec.	Sal Sal Sal Sal Own	½F ½F FF	SB SB SB SB SB SB	4.45 4.45 4.45 4.64 3.71	Spr Spr Spr Spr	Spr Spr Spr Spr Spr TT.	81/2	Own.
Star	137¼ 137° 113 120 131 131	3460 4025 2330 2627	28x4.75 32x6.75 32x6.75 30x5.50 30x5.50 31x6.20 32x6.20 32x6.75	Own B&B. 11Q Long29AM Long Long Long28AM B&B B&B	P	2-2 2-1 2-1 3-2	9½ 107/8 93/4 98/4 11 83/4 107/8	61/2 63/4 61/4 51/2 61/2 53/4 63/4	8s 2 4 2 2 4 2 2 2	Own Own Own Own Det	SeU Eng Eng Eng Eng Eng Eng	3 3 3	3.0 3.0 3.2 3.2 3.2 3.1	2 m-Spi 1 m-Spi 1 m-Spi 4 m-Spi 4 m-Spi 4 m-Spi 5 m-Mec 1 m-Mec	Own Own Own Tim	½F ½F ½F	SB Wo SB SB SB Wo	5.0° 4.5 4.3 3.31° 4.3° 5.0	Spr Spr Spr Spr Spr	Spr	8 81/2	Own. Tim Tim Own. Own. Tim Tim
Velie Std. 50 Velie 6-66 Velie 6-77 Velie 8-88	112 118	2254	30x5.25 30x5.25 32x6.00 32x6.20	B&B 9 Q B&B. 9 Q. B&B 10Q B&B. 11QL	P	2-1 2-1 2-1 2-1 2-1	87/8 87/8 97/8 107/8	6½ 6½ 6¾ 6¾ 6¾	2 2 2	Mec.	Eng Eng Eng	3	3.0	m-Cle m-Cle m-Cle m-Cle	Own	⅓F	SB Wo Wo	4.9	Spr	Spr Spr Spr	8½ 8½ 8½	Wrr BLC. BLC. BLC.
Willys Knight,Std. 6 Willys Knight Spec.6 Willys Kni, Great 6	1131/4	2944	29x5.50 31x6.00 32x6.20°		P	2-1 2-1 2-1	87/8 87/8 107/8	6½ 6½ 6¾ 6¾	2 2 2		Eng Eng Eng	. 3	3.1	m-Mec. m-Mec. m-Mec.	Own	1/2F	SB SB	5.11	Spr	Spr Spr	83/8	N-P N-P N-P

ABBREVIATIONS:

**—Where two ratios are given, the first is at ends; the second at center of cam.

Others also.

Vacuum Booster.

Overall Length.

A-Artillery.

Ada—Adams.

Alem—Alemite.

Alm—Almetal.

AmW—American Wire Wheel,
A-Z—Alemite-Zerk.
B&B—Borg & Beck.
B-L—Brown-Lipe.
B-Fw—Both Internal and External Four Wheels.
BtC—Brown Lipe Chapin.
Bim—Bimel.
Ca—Cantilever.
carS—Carbon Steel.
Ck—Cork Inserts.
Cle—Cleveland.

Clev—Cleveland Welding,
C&L—Cam and Lever.
Col—Columbia.
Cpl—Campbell.
CR—Central Reservoir.
dp—Double Plate.
Det—Detroit.
DH—Direct Hydraulic.
DH—Direct Mechanical.
DT—Double Transverse.
Eat—Eaton.

El—Elliot.
Eng—Unit with Engine.
Ex-Dr—External Driveshaft.
Ex-Fw—External Four Wheels.
Ex-Rw—External Rear Wheel

½E—½ Elliptic.

½F—½ Floating.

¼F—¾ Floating.

f—Fabric.
F—Fabric,
Fair—Fairmount Machine Co.
FE—Full Elliptic.

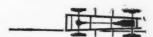
FF—Full Floating.
Fire—Firestone.
Gem—Gemmer.
G&H—Guay & Haigh.
Hay—Kelsey-Hayes.
Hyd—Hydraulic.
Hyp—Hypoid.
I—"I" Section.
In-Fw—Internal Four Wheels.
In-Rw—Internal Four Wheels.
Jac—Jacox.



American Electric

				GENERA	L						BA	TTERY			PERFO	RMANCE
MAKE AND MODEL	Body Type	Number of Pas- sengers	Price Com- plete	Price With- out Battery	Wheel - base (Ins.)	Tread (Ins.)	Tire Size (Ins.)	Weight Com- plete (Lbs.)	Make	Model	Price	Voltage	Ampere Hour Capacity	Location	Miles per Charge with Full Load	Speed with Full Load (M.P.H.)
	Brougham	4 5 4 4	\$2800 2900 4250 5000	\$2500 2550 Var Var	100 112 102 102	56 56 56 56	32x4 25x5.77 32x4½ 32x4½	3385 4775 4200 Var	Phileo		400 Var Var	84 95	153 180 180 180	½UH & ½RC ½UH & ½RC ½UH & ½RC ½UH & ½RC	80-100 60-100 60-100 60-100	26 25 25-28 25-28

Chassis—Continued



		BRAK	ES				F	RO	NT /	XLE		ST	EERIN	G GE/	AR .		SPR	INGS	3	FRA	ME	CHAS	RI-	RIN	AS	WH	EELS	
	Foo	ot		На	ınd					oriz.(°)					1		Front	1	Rear			CATI	ON					
Type and Location	Braking Area (Sq. In.)	Application	Optional Four Wheel Brakes	Type and Location	Braking Area (Sq. In.)	Shackles Type	Make	Axle Section Type	Angle of Pivot Pin with Vertical (°)	Angle of Wheel Spindles with Horiz	Axle End Type	Make	Type	Ratio (to one) **	Minimum Turning Circle Diameter (Ft.)	Type	Length and Width (In.)	Type	Length and Width (In.)	Material	Make	Make	Type	Diameter and Width (In.)	Make	Type	Make	MAKE AND MODEL
B-Fw. B-Fw. B-Fw.	183.9 254 350	DM DM DM	No No No	Ex-Rw Ex- Dr Ex- Dr	116 ₁ 33 ⁸ 4 57½	M M M	Own Own Own	I. I. I.	0 0 0	2 2 2	RE	Gem.	C&L W&S W&S	14 18		1/2E. 1/2E. 1/2E.	36x2 38x2 39½x2	1/2E. 1/2E.	507/8x2 54x2 56½x2½	St	Smi.	Alem	PG.	20x4 20x4½ 21x3¾	Budd	D	Budd	Nash Std. 6 Nash Special Nash Advanced
Ex-Fw. B-Fw. B-Fw.	244	DM.	No.	Ex-Rw Ex-Rw	122	M	Own	I.			RE	Jac Jac Own.	S&N W&N. W&G.	15 13.81 8½		½E. ½E.	36x2 35x2 33x1 ³ / ₄	1/2E. 1/2E.	54½x2 54½x2 49x1¾	carS	Own	Alem.	PG.	18x		A	Mot	OaklandAA 6 OldsmobileF28 Overland(4)Whippet
In-Fw. In-Fw. In-Fw. Ex-Fw Ex-Fw Ex-Fw In-Fw. In-Fw. B-Fw.	364½ 282 282 342½ 314	DM DH DH DH DM	No No No No No No	In-Rw In-Rw In-Rw Ex-Do Ex-Do In-Rw In-Rw In-Rw In-Rw	182¼ 24 24 147¾	MMM	Own	I. I. I. I. I.		2 2 2 2 2	RE RE RE RE RE	Own. Ross. Ross. Ross. Ross. Gem. Gem.	W&S W&S C&L C&L C&L C&L	121-19	47 47 43 383	/2E.			54x2 ¹ / ₄ 54x2 ¹ / ₂ 56x2 ¹ / ₄				PG. PG. PG. PG. CR.	21x 19x4 19x4 19x 21x 20x4½	Mot Mot Fire	D A A D	Mot Mot Mot Mot Mot	Packard 526 Packard 533 Packard 443 Peerless 6-60 Peerless 6-80 Peerless 6-91 Peerless 8-69 Pierce-Arrow 31 Pontiac 36 Pontiac 6-91
In-Fw. In-Fw. Ex-Fw Ex-Fw Ex-Fw In-Fw. In-Fw.	198 198 198 365	DH DH DH DM	No No No No	Ex- Do Ex- Do Ex- Do Ex- Do In- Rw In- Rw	44 44 151	M M M M	Own Sal Sal Sal Own Own	I. I. I. I.	7	2	RE RE RE	Ross. Ross. Ross. Ross. Own.	C&L C&L C&L		40	1/2E. 1/2E. 1/2E. 1/2E. 1/2E. 1/2E.	37x2 37x2 36x2 37½x2	1/2E. 1/2E. 1/2E. 1/2E. 1/2E.	55x2 55x2 57\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	St St St	Own	Bijur	PG. PG. PG. CR.	18x 20x 20x 20x	Fire.	Opt. Opt. Opt. W	AmW	ReoFlying Cloud Reo Wolverine Roamer 8-78 Roamer 8-88 Roamer 8-88 Rolls Royce N. Ph. Rolls Royce Si. Gh.
In-Fw. In-Fw. In-Fw. In-Fw. In-Fw. In-Fw. In-Fw.	312 443¾ 304 304 306	DM DM DM DM DM	No No No No No	In-Fw. In-Rw In-Rw Ex- Dr Ex- Dr Ex- Dr Ex- Dr Ex- Dr	156 2217 4914 4914 2818 40.5	M M M M M	Own Tim Tim Own Own Own Tim Tim	I. I. I. I. I.	6 6 6 4 4 ¹ / ₂ 8 7 ¹ / ₂ 7 ¹ / ₂	$ \begin{array}{c} 2\frac{1}{2} \\ 2\frac{1}{2} \\ 1\frac{2}{15} \\ 1\frac{2}{15} \\ 1 \end{array} $	RE RE RE RE RE	Ross. Ross. Ross. Ross. Ross.	W&W. C&L W&W. C&L C&L C&L C&L	18 15 15 16 15 ¹ / ₂	36 411/2 45 48 48	1/2E. 1/2E. 1/2E. 1/2E.	36x1 ³ ⁄ ₄ 40x2 ¹ ⁄ ₄ 40x2 ¹ ⁄ ₄ 26 ¹ ⁄ ₂ x2 36 ¹ ⁄ ₂ x2 38x2 38x2 ¹ ⁄ ₄ 38x2 ¹ ⁄ ₄		54x1¾ 62x2¼ 62x2¼ 505%x2 505%x2 60x2½ 62x2¼ 62x2¼	St St St St St St	Mid Mid Own Own Smi	Alem A-Z A-Z A-Z	PG. PG. PG. PG.	20x5	Fire Fire	A A° A° Opt.	Mot Hays	Star
In-Fw. In-Fw. In-Fw. In-Fw.	180 180	DH	No	Ex- Dr Ex- Dr Ex- Dr Ex- Dr	35 46	R	Own Own Own Own	I.	7	2	RE RE	Ross.	C&L	12-15 1 12-15 1	38	1/2E. 1/2E. 1/2E. 1/2E.	363/8x13 363/8x13 363/8x13 363/8x13	1/2E. 1/2E. 1/2E. 1/2E.	55x2 55x2 55x2 55x2	St St St	Hyd	Zerk Zerk Zerk Zerk	PG.	20x4 20x4 20x 20x4 ¹ / ₂	Jax Jax Jax Jax	A	Mut.	Velie 6-66 Velie 6-77 Velie 8-88
B-Fw. B-Fw. B-Fw.	249	DM.	No	Ex-Rw Ex- Dr In- Rw	361/2	F.	Own	I.	8		RE	Own. Own. Own.	W&G. W&G. W&S	8½ 11 14½	37.2 47 44½	1/2E. 1/2E. 1/2E.	34½x1¾ 36¾x2 41½x2½	½E. ½E. ½E.	51 ² x1 ² 55 ¹ /4x2 63 ¹ /8x2 ¹	carS	Own	Alem Alem Alem	PG.	19x4	Hays	A	Hays	Willys Knight.Std. 5 Willys Knight Spec.6 Willys Kni. Great 6

Jax—Jaxon.

m—Metal.

MD—Multiple Dry Disk.

Mec—Mechanics.

Mid—Midland.

Mot—Motor Wheel.

Mur—Murray.

Mut—Mutual.

NP—New Process.

ce d full d

OC—Oil Cups.
OG—Oil and Grease Cups.
Oilom—Oilometer.
OW—Oil Cups with Wick Feed
Opt—Optional.
P—Single Dry Plate.
PG—Pressure Gun.
PJon—Phineas Jones.
PS—Pressed Steel.
P&B—Parish & Bingham.
Pet—Peters.

R—Rubber.

RE—Reverse Elliott.

Roc—Rockford.

RR—Radius Rods.

R&S—Roller and Secter.

s—Segments.

Sal—Salisbury.

SB—Spiral Bevel.

SeU—Separate Unit.

Smi—Smith.

Spec—Special.

Spi—Spicer.
Spr—Springs.
St—Steel.
T—Tubular.
TA—Torque Arm.
TT—Torque Tube.
T/5E—Transverse Semi-Elliptic.
Tim—Timken.
U-M—Universal Machine.
U-P—Universal Products.

Var—Varies.
W—Wire (Wheels).
War—Warner Corp.
W-G—Warner Gear.
Wd—Wood.
We—Worm.
W&G—Worm & Gear.
W&N—Worm and Nut.
W&R—Worm and Roller.
W&S—Worm and Sector.
W&W—Worm and Wheel.

Car Chassis



		MOTOR			C	ONTROLLE	R			DRIV	E		SPRI	INGS		
Make	Model	Number	Total Horse Power	Location	Make	Location	Number of For- ward Speeds	Type of Final Drive	Type of Rear Axle	Total Reduc- tion (Motor to Wheels)		Torque Taken by	Type Front	Type Rear	Wheels (Stan- dard Equip- ment)	MAKE AND MODEL
Roth Gen. Elec Own	22-17 1022 B-68 S-66		3 3½ 3½ 3½	Unit with J.S Under F	Gen. Elec Own	Under S Under S Under S Under S	5	Bevel Worm	34 Float. Float 34 Float. 34 Float.	6.00 8.60	Springs	Springs Tor. Arm.	1/2EII	1/2Ell	Art	*Detroit

Var—Varies according to make of battery employed

1/2 Ell—1/2 Elliptic 3/4 Float—3/4 Floating

 $^{1\!/}_2$ U. H. and $^{1\!/}_2$ R. C— $^{1\!/}_2$ under hood and $^{1\!/}_2$ rear compartment 1—Make optional



American Passenger

			(GENER	AL			SUSPEN- SION		CRAN MAT	KCASE ERIAL	VA	LVES		nt End Drive		PI	STO	N		PISTON	PIN		ONN	IECT	ING ROE	os
CAR MAKE AND MODEL	Engine Make and Model	No. of Cyls. Bore and Stroke (Ins.)	Rated H. P. (N.A.C.C.)	Piston Displacement	Compression Ratio	Maximum Brake Horsepower at Specified R.P.M.	Cylinder Blocks	No. of Points Type	No. Cyls. Cast. in 1 Block	Upper ‡—Sep. Casting	Lower	Arrangement	Ex. Valve Head Material	Type	Make of Chain or Non-Metallic	Material	Length (Ins.)	Weight (Ozs.)	Pin Center to Top of Head	No. of Rings and No. Above Pin	Diameter and Length (Ins.)	Bearing In	Material	Center to Center Length	Weight (Oze.)	Diameter and so Length (Ins.)	Lype
Auburn	LyeWS LyeGS Lye4MD	6-27/8x48/4 8-27/8x48/4 8-31/4x41/6	19.84 26.4 33.8	185.0 246.7 298.6	5.05 5.15 5.35	88-3200 115-3300	Ver. Ver. Ver.	4 RR.	8	Ir Ir‡ Ir‡	PS	L L L	SiCh SiCh	Ch Ch	MOR. MOR. L-B	Als Als	31/2 31/2 31/2 31/8	 21	118 118 276	3- 4-4 3-	7/8x1 \$3 7/8x1 \$3 7/8x2 \$3 7/8x2 \$3	Pis.	Dur Dur Dur	91/2		2½8x1¼ 2½8x1¼ 2½8x1½	Pou. Pou. Pou.
Buick	Own	6-31/8×41/2	23.44 29.4	207	4.79		Var.	3 Ru. 3 Ru.					SiCh		GE	CI.				3-3	3/4x211 7/8x	Pis.	St	10 10#	36½ 48	2x1½ 2¼x1¾	Pou. Pou.
Cadillac	Own	8-3 5 x 4 15 6-3 1 6 x 4 14 6-3 1 2 x 5 8-3 1 4 x 4 3 4-3 1 4 x 4 4-3 5 x 4 1 6 6-3 x 4 1 4 6-3 x 4 2 5 6-3 5 6 x 5 8-3 4 x 5	35.1 23.44 29.4 33.8 21.7 21.03 21.60 25.35 31.54 45.0	288.6 314 170.9 170.3	4.9° 5.0 5.0 4.5 4.7 5.0 5.1 6.0 4.26	90-3000 63-2300 80-3000 35-2200 38-3800 54-3000 75-3000 112-3000 95-2400	Ver. Ver. Ver. Ver. Ver. Ver. Ver. Ver.	3 Ru. 4 3 Sp. 4 Ru. 4 Ru. 4 Ru.	6 6	Ir SS‡.	PS Al.: PS Al.:	L	SiCh CI CI SI SiCh SiCh	Ch Ch He Ch Ch	MOR. MOR. MOR.	CI CI Als Als Als Als CI	4 311 41/8 311 41/8 41/8	46½ 38 21¾ 21¾ 29¾	28/8 11/6 2 2 21/6 2/6	3-2 3-3 3-3 3-3 3-3 3-3 5-5 5-5 3-7	7.8x3 32 7.8x2 44 1 32 x3 16 31 x2 25 5 5 x3 16 8 4 x3 3 4 x2 16 7.6x2 7/8 1 x3 1/4 1 6 x3 6 5	Pis Pis Pis Pis Pis Pis	ASt. ASt. ASt. Car. Car. Car. Car.	81/2	43 37 23	$2\frac{3}{16} \times 1.44$	Pou.
Davis	Cont14S Cont12Z. Own124 Own Own	8-3x4¾ 8-3x4¼ 4-37%x4½ 4-37%x4½ 6-3¼x4½ 6-3%x37%	28.8 28.8 24.0 24.0 25.3 27.3 27.34 18.15	185.0	4.79 5.4 5.4	84-3200 72-2950 35-2000 35-2000 75-3000 40-2400 47-2800 70-3000	Ver. Ver. Ver. Ver. Ver. Ver. Ver.	4 Ri 3 Ri 3 Ri 4 Ri 4 Ru 4 Ru 4 Ru	8 8 4 4 6 6 6 6 6	Ir Ir Ir Ir Ir Ir Ir	PS PS PS PS PS	L L L L L L	SiCh SiCh SiCh SiCh	Ch Ch Ch Ch Ch	MOR.	Als Als Als	35/8 33/4 43/8 43/8 43/8 33/8 31/6 31/6	30	21/4 21/3 21/3 21/3 21/3 21/3 21/3 21/3 21/3	4-4 3-3 4-4 4-4 4-4 3-3 3-3 3-3 4-4	17x215	Rod	ASt. Car. ASt. ASt. Dfa. Car. Car. Car.	91/8 91/2	3978	21/sx1 1/8 21/sx1 7/8 18/sx1 7/8 18/sx1 7/8 18/sx1 1/8 22/sx1 1/2 22/sx1 1/2 2x1 1/8 2x1 1/8 2x1 1/8 2x1 1/8	Pou. Sep. Sep. Pou. Pou. Pou. Pou.
Elcar. 6-70 Elcar 8-78 Elcar 8-82 Elcar 8-91 & 8-92 Erskine 6 Essex Super 6	LyeWS LyeGT LyeGS Lye4HM Cont9F Own6	6-276x4% 8-284x4% 8-276x484 8-374x41/2 6-284x41/2	26.45 33.8			52-2900 62-3000 70-2900 84-2900 42-3100	Ver. Ver. Ver. Ver.	4 4 4 4	8	Ir	Ir Ir Ir PS PS	L	SiCh SiCh SiCh SiCh ChNi SiCh	Ch Ch Ch	L-B L-B MOR.	CI CI Als CI	3½ 3½ 3½ 3½ 4 3 3½	$21\frac{1}{4}$ 22 21 $15\frac{1}{4}$	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	4-4 4-4 4-4 4-4 4-4 3-3	7/8x2 3/2 7/8x2 3/2 7/8x2 3/2 7/8x2 3/8 3/4x2 3/2 3/4x2 3/2	Pis Rod Rod	Car. Car. Car. Dfa. St ASt.	91/2 91/2 91/2 9 9 818	34 34 42 27 24	2½x1¼ 2½x1¼ 2½x1¼ 2½x1¼ 2½x1½ 2x1¼ 1¼x1¾	Pou. Pou. Pou. Pou. Pou. Pou.
Falcon Knight12 FordA Franklin. Series 12	WilsonA OwnA	6-214x378 4-378x414 6-314x434	24.03	156.6 200.5 236.4	5.5 4.4	45-3000 40-2200 46-2500	Ver.	4 Ri. 4 Ri.	6 4 1	Ir‡ Ir Al‡.	PS PS PS	S L I	S CCNA SiCh	Ch He. Ch	Cam.	Als Al Al	35/8 33/3 33/3 33/7	17 ⁷ / ₈ 25 ¹ / ₂	21/4	4-4 3-3 4-4		Pis FF Pis	Car. St Dur	93/8 71/2 91/2	24	17/8x1 18 11/2x15/8 21/8x1 21	Pou.
Gardner	LycGT LycGS LycMD Own	8-2 ⁸ / ₄ x4 ⁸ / ₄ 8-2 ⁷ / ₈ x4 ³ / ₄ 8-3 ¹ / ₄ x4 ¹ / ₂ 6-2 ⁷ / ₈ x4 ¹ / ₂ 6-3 ¹ / ₈ x4 ¹ / ₂ 6-3 ¹ / ₈ x5	26.45 33.8	246.7 298.6 175.0 207.0 288	5.0 5.0 5.35 5.15	65-3200 74-3200 115- 52-3100 71-3200 97-3200	Ver. Ver. Ver. Ver. Ver.	4 4 Ri 4 Ru 4 Ru 4 Ru	8 6 6	Ir Ir‡ Ir	PS	L L L L	SiCh SiCh SiCh	Ch	MOR. L-B.			121/2		4-4 4-4 3-3 3-3	7/8x2 1/2 7/8x2 1/2 7/8x2 1/2 1/8x2 1/2 1/3 x2 1/2 1x2 1/2	Pis	Car. Car. Car.	9½ 9½ 9 9¼ 10½	24	2½x1¼ 2½x1¼ 2½x1¼ 2½x1½ 2½x1¼ 2½x1¼	Pou. Pou. Pou. Pou. Pou. Pou.
HudsonO&S HupmobileCent. 6 Hupmobile125-8 HupmobileCent. 8	OwnA Own	6-31/4x41/4 8-3x43/4	25.35	288.5 211.6 268.6 268.6			Ver. Ver. Ver. Ver.	4 Sp 4	8	Ir Al‡.		L	SiCh	Ch	MOR. MOR.	Als CI CI CI	0.3.7	20 19	13/4 13/4	3-3 3-2 3- 3-2	1 32 x 2 11 1 x 1 x 2 3/4 1/8 x 2 3/4		Ca ASt. Car. Car.	115/8 83/4 91/2 91/2		2¼x2 2½x1¼7 2¾x1¼7 2¾x1¼7 2½x1¼4	Sep. Pou. Pou.
Jerdan R Jerdan J-1 Jordan JE	Cont12 E Cont8S Cont. 14S	6-31/4×4 8-27/8×43/4 8-3×43/4	26.45	199.0 246.5 268.7	5.0 4.65 5.0	62-3000 64-3000 80-3200	Ver.	4 Ru 4 Ri 4 Ri	6 8 8	Ir Ir Ir	PS PS PS	L L L	SiCh SiCh SiCh	Ch Ch Ch	L-B MOR. MOR.	Als CI Als	315 35/8 35/8		2 5 1 6	4-4 3-3 4-4	\$5x234 \$5x211 \$5x211 \$5x211	FF Rod FF	ASt.	816 984 984		17/8x13/8 21/4x1-5	Pou. Pou. Pou.
Kissel6-70 Kissel. 8-80&8-80 S Kissel8-90	Own 6-70 Own80 Own90	6-27/8x43/4 8-27/8x43/4 8-316x41/2	19.8 26.5 32.60	185.0 246.5 287.8	5.15 5.15 4.5	52-2900 70-2900 85-3100	Ver.	4 Ru 4 Ru	8	Ir Ir Ir	Al Al Al	L L L	SiCh . SiCh SiCh	Ch Ch. Ch	L-B L-B	Al Als Als	3½ 3½ 3½ 3½	12½ 15.1	115	4-4 4-4 3-3	3/4x21/2	Pis	Dur Dfa Dur	9½ 9½ 9 9		2½x	Pou. Pou. Pou.
La Salle	Own8 Cont. 10S Lyc. 4 HL Own90	8-31/8x414 8-31/2x5 8-27/8x43/4 8-31/4x41/6 6-37/8x51/4	31.25 39.2 26.45 33.8	303.0 385.0 246.7 298.6	4.8 5.1 5.0 4.25 4.25	80-3000 100- 70-3000 90-3000 90-2800 105-2100	Vee. Vee. Ver. Ver. Ver. Ver.	3 Ru 3 Ri 4 4 Ri 4 Ri	4 4 8 8 6 2	Al‡. Al‡. Ir Ir‡. Al‡. Br‡.	PS PS PS Al	L L L L T	SiCh SiCh SiCh SiCh CoCh.	Ch Ch Ch Ch He	MOR. L-B GE	NI Al Al CI CI		25 48	131	3-2	7/8x215 7/8x \$1/2235 7/8x2805 11/8x35/8 11/8x41/4		ASt. Car. Al Dur ASt.	10½ 934 9	34.6 40½ 26.4	23/8x23/4 2x 21/4x1 5 21/8x11/2 21/4x1116	Pou. Die. Pou. Die. Sep.
Marmen. 68 Marmen. 78 Marmen. E-75 McFarlan. St. 8 McFarlan. TV-6 Meen. Series A Meen. 6-60 Meen. 8-80	Own. E-75 Lyc4-H Own.TV 6 Cont7 Z Cont26 L Cont11E	6-3%x5½ 8-3¼x4½ 6-4½x6 6-3½x4¼ 6-2½x4¾ 6-3%x4¾	24.2 27.6 33.8 33.8 48.6 23.44 19.84 27.3	201.9 216.8 340. 298.6 572.0	5.25 5.5 4.34 4.5 4.65 4.78 4.94	72-3200 86-3400 75-2800 79-3000 120-2400 50-2600 47\(\frac{1}{2}-2600 66-3150 86-3200	Ver. Ver. Ver. Ver. Ver. Ver. Ver.	4 Ri	8 8 3 8 3 6 6 6	Ir Ir Al‡. Ir‡ Al‡. Ir Ir	PS PS Al PS Al PS PS PS	L I L T L L	CI SiCh SiCh SiCh ASt ChN	Ch Ch Ch Ch Ch Ch		Al CI Als Al CI CI	31/4 31/4 4 1/6 38/4 31/6 31/6 31/6 31/6 31/6 35/8	13 24 35 27 21			34x278 41x234 13ex376 78x278 114x316 78x216 41x216 41x216	Pis Rod Rod Pis FF Rod FF	Car. Car. Car. Dur Car. ASt.		21½ 92 34	2x11/4 21/8x11/4 21/8x2 21/8x11/2 22/4x 2x13/8 17/8x13/8	
Nash Std. 6 Nash Special Nash Advanced Oakland AA-6	Own331 Own361	6-31/4x41/2 6-31/4x5	25.35 28.4	184.1 224.0 279.0	4.69	45-2600 52-2600 70-2400 60-2800	Ver.	4 Ru 4 Ru 4 Ru 3 Ru	6	lr lr	PS St PS	I	SiCh	He		CI		19 10 26	17/8 1 9 1 16 15/8	4-4 4-3 4-3	18x218 76x176 18x176	Rod	ASt. ASt. Car.	10	48/2	21/8x18/8	Die. Pou' Die.

ABBREVIATIONS:

"Others used.

ABos—American Bosch,
AI—Aluminum.
A-L—Auto-Lite.

AM—Air Mase.
Asc—Ascoloy.
Ast—Alloy Steel.
ATC—Air Tube Cellular.
Au—Automatic.
B—Battery,
Bal—Ball and Ball.

Be—Bevel Gear Overhead Camshaft
Br—Bronse.
Car—Carbon Steel.
Car—Carter—(Carburetor)
CCNA—Carbon Chrome Nickel
Alloy.
Ce—Centrifugal
Cell—Cellular.
CF—Cross Flow.
Ch—Chain.
ChN—Chrome Nickel.
Cl—Cast Iron.
Ce—Chain, Overhead Camshaft.

CoCh—Cobalt Chrome Steel.
Cont—Continental.
CSM—Chrome Silica Manganese.
De J—Delon.
Df—Distillation and Filtration.
Dfa—Drop Forged Aluminum.
DFS—Drop Forged Steel
Di—Distillation
Dia—Diamond Chain
Dia—Dia Cast.
DM—Direct Mechanical (Sliding Gear.)

D-R—Delco Remy.
Dur—Duralumin.
Dyn—Dyneto.
Ecc—Eccentric.
Ep—Electric Pump.
F—In head and side.
F&T—Fin and Tube.
Fed—Fedders.
FF—Full Floating.
Fi—Filter.
FV—Filtration and Ventilation.
GE—General Electric.

Ge—Gear.
Gra—Gravity.
Ha—Hand.
Har—Harrison.
He—Helical Gear.
I.—Valve in Head.
In—Inertia.
Ir—Iron.
Jam—Jamestown.
Jeh—Johnson.
L—"I." Head.
L-B—Link Belt.
Lyc—Lycoming.

Car Engines



		CRA	NK	SHAFT		C	OILING	;		C	OOLI	NG SY	STEM		FU	JEL SY	STEM				E	LECTR	RICAL	SYSTE	EM			
				Main Be	arings							Ra	diator				Air Clean		1	gnitio	n _	ter		1	Bati	tery		CAR
Offset (Ins.)	Counterbalanced?	Torsional Vibration Damper?	Namber	Front Diameter and Length	Rear Diameter and Length	System Type	Pump Type	Cleaner Type	Туре	Thermostat?	Shutters?	Make	Care Type	Shell Material	Carburetor Make and Size (Ins.)	Feed Type	Make	Туре	Make	Current Source	Spark Control	Generator and Starter Make	Starter Engagement	Length	Width	Height	Velts and Ampere-Hrs.	MAKE AND MODEL
No No	No No	Yes. Yes. Yes.	4 5 5	23/8x17/8 23/8x17/8 23/8x2118	23/8x17/8 23/8x17/8 23/8x2116	PG	Ge Ge	No	Pu Pu Pu	Yes. Yes. Yes.	No No No	Jam Jam Jam	Cell Cell	St St	11/2	Vac Vac			D-R. D-R. D-R.	B B	S-A. S-A.	D-R D-R D-R	In In				6-90 6-90 6-100	Auburn
No	Yes. Yes.	Yes. Yes.	4 4	2½x2 ⁹ / ₃₃ 2 ³ / ₈ x2 ⁵ / ₈	21/4x219 23/8x225 23/8x235	PC	Ge	Fi	Pu Pu	Yes. Yes.	No	Har	Cell	Ps St	Mar11 Mar11	Vac	AC	In.	D-R D-R	B	S-A.	D-R. D-R.	DM	98/8X 108/4X	73/8X 73/8X	10	6-90 6-105	Buick
		No Yes. Yes. No No Yes. Yes. Yes. No		23 8x131 21 9x236 25 8x232 28 4x132 28 4x132 17 8x232 17 8x178 21 4x178 28 4x3	23/4x27/8 23/4x23/8 31/4x21/8 23/4x25/6 13/4x3 17/5x21/8 11/6x21/8 21/4x21/8 25/6x31/4 23/4x21/8		Ge RV Eec Ge Ge Ge Ge Ge	Fi Fi	Pu. Pu. Th. Pu. Pu. Pu. Pu. Pu.	Yes. Yes. Yes. No Yes. Yes. Yes.	No No No No No No	Har. Fed. Har. Har. Own. McC. Fed. Fed.	F&T. RiC RiC.	PS	Sch. Sch. Car. 1 Car. Str.	Vac Vac Vac Vac	AC	In In In Ce	D-R. D-R. D-R. D-R.	B B B B	S-A S-A S-A	D-R. D-R. D-R. D-R. D-R.	In In In In	10 16 x 10 16 x 8 11 x 9 16 x	618x 618x 618x 618x	91/8 91/8 91/8 8 91/8	6-105 6-120 6-90 6-90 6-93 6-100 6-153	Cadillac 341 Chandler Spec 6 Chandler Big 6 Chandler Royal St. 8 Chevrolet Chrysler 52 Chrysler 72 Chrysler 1mp. 80 Cunningham V-7
No	No. No. No.	Yes. Yes. No. No.	55551-1-3	25/8x13/8 21/8x11/2		PH PS PH PH PH	Ecc. Ge. Ge. Ge. Ge. Ge. Ge. Ge. Ge.	Fi No No Fi Fi Fi	Pu.	No No Yes. Yes. No Yes. Yes.	Ha No No No Opt. No No	McC. McC. Fed. Fed.	F&T. F&T. RiC. RiC. RiC.	PS. PS. PS. PS. PS. PS.	Ste1 Ste1 Str14 Sch14 Til1 Til1	Vac Vac Vac Vac Vac Vac	NoTil.	No Ce Ce	N-E. N-E. D-R. A-L. A-L.	B B	S-A. S-A. S-A. S-A. S-A.	D-R. N-E N-E In D-R. A-L. A-L.	In In In In In In In	10 ³ / ₈ x 9 ¹ / ₈ x 10 ⁷ / ₆ x 10 ³ / ₈ x	7 14 x 7 3/8 x 7 3/8 x 7 1/4 x 7 1/4 x 7 1/4 x 7 x 9 7	934 1018 1018 1018 914 914 8	6-142 6-111 6-111 6-	Davis 99 Diana St. 8 Dodge Bros. 124 Dodge Bros. 128 Dodge Bros. Senier Dodge Bros. Victo' 6 duPont E & F Durant 65 Durant 75
No No No No	No. No. No. No. Yes	No. Yes. Yes. Yes. No. No. No.	5 5 4 3		23/8x17/8 23/8x13/4 23/8x13/4 23/8x25/8 21/8x11/8 21/8x13/4	PC PC PH PS									Swan Sch1½ Swan 1½ Swan 1½ Sch												6-102 6-102 6-119 6-127 6-90 6-105	Elcar 6-70 Elcar 8-78 Elcar 8-82 Elcar 8-91 & 8-92 Erakine 6 Essex Super 6 Falcon Knight 12
No.	Yes	-	3	15/8x2 23/8x211	2½x25/8 15/8x3½ 28/8x2½										TilZen StrTi												6-80	Ford A Franklin. Series 12
No	No.	Yes. Yes.	5	28/8x13/4 28/8x13/4 28/8x25/8 21/2x 21/2x 23/4x2116 25/8x	28/sx18/4 28/sx18/4 28/sx25/8 21/2x23/6 21/2x 28/4x211/8 25/8x	PH. PC.	Ge Ge Ge Ge Ge	No. Fi. Fi. Fi. Fi.	Pu Pu Pu Pu Pu Pu	Yes. Yes. Yes. Yes. Yes.	No No No No No No	Fed Fed Fed Long.	Cell. Cell. F&T. F&T. F&T.	PS. PS. PS.	Sch. 114 Sch. 114 Car. 114 Joh. 134	Vac. Vac. Vac. Mp. Mp. Mp. Mp.	No AM AM	No Fi Fi In In In	D-R. D-R. D-R. N-E. N-E. N-E.	B B B B B	S-A. S-A. S-A. S-A. S-A.	D-R. D-R. D-R. N-E. In N-E. N-E.	In In In In In	105/8x 105/8x 13x7-5	7x81, 7x81, 7x91,	44	6-129 6-135 6-117	Gardner
No		Yes Yes Yes Yes	4 4 5 5	23/8x2 16 23/2x15/8 21/2x14/2 21/6x14/2 21/6x14/3		PS PC PF	Ecc. Ge.	Fi.	Pu.	No Yes. Yes.	Ha No Au	Har			Mar Str1½ Str1½ Str1½												6-100	HudsenO&S HupmebileCent. 6 Hupmebile125-8 HupmebileCent. 8
No No	No. No. No.	Yes. Yes. Yes.	5 5	2½x1½ 2½x1½ 2½x1½ 2½x1¾	2½x2½ 2½x2½ 2½x2½ 2½x2½										Str Str												6-135	Jordan R Jordan J-1 Jordan JE
															Sch										7½x 7½x	916	6-90 6-118	Kissel 6-70 Kissel 8-80&8-80 S Kissel 8-90
No No No	Yes No. Yes No. No. No.	No. No. Yes Yes Yes Yes	355577	23/8x131 2x23/4 213/x13/8 23/8x23/4 21/4x23/2 21/2x27/8	23/8x27/8 2x31/2 213/2x23/4 23/8x23/4 21/4x31/6 21/2x33/4	PH PH PC PA PA	Ge Ge Ge Ge Ge	Fi. Fi. Fi. No.	Pu Pu Pu Pu Pu	No Yes. Yes. Yes. Yes. Yes.	Au No No No No	Fed. Fed. G&O. G&O.	RiC RiC RiC RiC RiC	PS PS SB SB	OwnStrSehSchStrBal	Vp Vac Vac Vac Pre	AM. AM. Uni. No.	No Ce Ce Ce No	D-R. D-R. D-R. DeJ DeJ D-R.	B B B B	S-A S-A S-A S-A	D-R. D-R. D-R. DeJ. DeJ. West.	In In In Mag.	10 16 x 10 76 x 11 34 x 11 34 x 20 x 5 1 17 14 x	7 16 x 7 x 9 1 7 x 9 1 7 x 9 1 7 x 8 1 7 % x	77/8	6-135 6-142 6-142 6-166	La Salle
No No No	No. No. Yes No. No. No.	Yes. Yes. Yes. Yes. No. No. Yes.	5 5 3 5 4 4 4 7 5	2½x1½ 2¾x1½ 2¾x2½ 2¾x2½ 2¾x2¼ 2¾x3 2x1¼ 2½x1¼ 2½x1¼ 2½x1¼ 2¾x1¼ 2¾x1¾	2½x1¾ 2¾x1½ 2¾x3½ 2¾x2½ 2½x1½ 2½x1½ 2½x1½ 2½x1½ 2½x1¾ 2½x1¾	PG. PA. PA. PA. PC. PC. PC. PC. PH.	Ge Ge Ge Ge Ge Ge Ge Ge	No. Fi. Fi. No. No.	Pu Pu Pu Pu Pu Pu Pu	Yes. No No Yes. Yes.	No No No No Ha	Fed Fed Fed Fed Fed Fed Fed	ATC. ATC. ATC. RiC RiC RiC Cell.	St. PS. PS. SB. PS. PS. GS. GS.	Str 13/ Str 13/ Sch Sch Sch Sch Str Str Str 13/ Str 13/ Str 13/	Vac. Vac. Vac. Vac. Vac. Vac. Vac. Vac.	No No No No No Uni Cont	No No No No No Ce In	D-R. D-R. D-R. D-R. D-R. D-R. D-R. D-R.	B B	S-A. S-A. S-A. Ha. S-A. Au. S-A.	D-R. D-R. D-R. D-R. D-R. D-R. D-R. D-R.	In DM DM In In In In In In	10 3 x 10 5 x 13 8 x 10 x 13 4 x 9 6 x 10 4 x 10 4 x 12 8 x	7x9; 7x9; 7; x 7; 4x 7; 4x 7x9; 7x9; 7x9; 7x9;	934	6-120 6-170 6-111 6-153 6-84 6-84 6-142	Marmon. 68 Marmon. 78 Marmon. E-75 McFarlan. St. 8 McFarlan. TV-6 Meon. Series A Moon. 6-72 Moon. 5-80
No No	No. No. No.	Yes. Yes. No.	777	2x1†\$ 2¼x2¼ 2¾x2¼ 2¾x2}}	2x116 21/4x21/2 23/8x216	PA. PH. PH.	Ge Ge Ge	Fi. Fi.	Pu. Pu. Pu.	Yes. Yes. Yes.	No No No	Mod. Mod. Mod.	F&T. F&T. F&T.	PS PS	Car Mar Mar Mar	Vac Vac Vac	AC AC	In In	A-L D-R. D-R.	B B	Au S-A S-A	A-L D-R. D-R.	In In In	918x 918x 1038x	1291 1291 124x	934	6-92 6-120	Nash Std. 6 Nash Special Nash Advanced OuktandAA-6

Mar—Marvel.
Mag—Magnetic Shift.
McC—McCord.
Mod—Modine.
MOR—Morse.
Mp—Mechanical Pump.
N-E—North East.
NiS—Nickel Silver.
NiSt—Nickel Steel.
Opt—Optional.
PA—Pressure to mains,
rods, pins and camshaft

PB—Pressure to mains, rods and timing case
PC—Pressure to main and connecting rod bearings only.
PD—Pressure to mains, rods, wrist pins.
PE—Pressure to mains, rods, wrist pins and timing case.
PF—Pressure to all bearings including wrist pins.
PG—Pressure to mains, rods, cam shaft, timing case.

PH—Pressure to main, connecting rod and camshaft bearings.

Pis—Piston.
Pou—Poured.
Pre—Pressure.
PS—Pressed Steel.
PS—Splash with pressure (Oiling system.)
Pu—Pump.
Pu—Pump.
RAM—Ramsey.
Ri—Rigid.
RiC—Ribbon Cellular.

RR—Rubber & Rigid.
Ru—Rubber.
RV—Rotary Vane.
S—Sleeve Valve.
S—Sheeve I Automatic.
SB—Sheet Brass.
Sch—Schebler.
Sep—Separate Liner.
SiCh—Silicon Chrome Steel.
Sp—Spring cushioned.
Spec—Special.
SS—Semi Steel.

Ste—Stewart.

Str—Stromberg.

T—"" Head.

Tex—Textolite.

Th—Thermo-syphon.

Tal—Tillotson.

Talg—Tungsten Steel.

Uni—United.

Vac—Vacuum.

Ver—Vertical.

West—Westinghouse.

Wisc—Wisconsin.

Zen—Zenith.



American Passenger

			(GENER	AL			SUSPEN- SION		CRAN	KCASE	VA	LVES		nt End Drive		PI	STO	N		PISTON	PIN	C	ONN	ECT	ING ROD	S
CAR				=					Block																	Lower Be	aring
MAKE AND MODEL	Engine Make and Model	No. of Cyls. Bore and Stroke (Ins.)	Rated H. P. (N.A.C.C.)	Piston Displacement	Compression Ratio	Maximum Brake Horsepower at Specified R.P.M.	Cylinder Blocks	No. of Points Type	No. Cyls. Cast. in 1	Upper †—Sep. Casting	Lower	Arrangement	Ex. Valve Head Material	Type	Make of Chain or Non-Metallic	Material	Length (Ins.)	Weight (Ozs.)	Pin Center to Top of Head	No. of Rings and No. Above Pin	Diameter and Length (Ins.)	Bearing In	Material	Center to Center Length	Weight (Ozs.)	Diameter and Length (Ins.)	Type
Oldsmobile 6 Overland (4) Whippet	Own96	6-3 ³ / ₁₆ x4 ¹ / ₈ 4-3 ¹ / ₈ x4 ³ / ₈	24.4 15.6		5.0	55-2700 32-2800	Ver. Ver.	4 Ru.	6 4	[r	PS	L	SiCh ChN	Ch	MOR L-B	CI	384	26	2	3-2 3-3	55x27/8 47x213	Rod Pis			30	17/8x1 ¹¹ / ₃₂ 17/8x1 ⁵ / ₁₆	Pou.
Packard	Own90 Own69 Own81 Own36	S-3½x5 6-3¼x4 6-3¼x4 6-3½x5 8-3½x5 6-3½x5 6-3½x5	39.20 25.35 25.35 29.4 33.8 29.4 38.40	230.2 288.6 332.0 288.5 414.7	4.35 4.9	82-3200 106-3200 62-3000 63-2600 70-2500 80-2809 75-3000 190-2600	Ver. Ver. Ver. Ver. Vee. Ver.	4	8 6 6 4 6	Alt. Alt. Alt. Alt.	Al PS PS Al Al	L L L L T	CSM Asco SiCh SiCh Tung SiCh	Ch Ch Ch He He	L-B	Als.	315 316 316 384 314 512 41		$\begin{array}{c} 2\frac{1}{2} \\ 2\frac{1}{2} \\ 2\frac{1}{2} \\ 2\frac{5}{16} \\ 2\frac{5}{16} \\ 1\frac{7}{8} \\ 1\frac{5}{8} \\ 2\frac{3}{16} \\ 2\frac{3}{16} \end{array}$	4-4 4-4 3-3 3-3 3-3 3-3	7/8x 55/4x23/4 55/4x23/4 11/8x23/5 1x 11/6x3/64	Rod FF FF	Car. Car. DFS DFS DFS Al Car.	11	56.8	2 1 1 3 8 2 1 2 1 3 8 1 7 8 1 3 8 1 7 8 1 3 8 1 7 8 1 3 8 2 7 8 1 1 8 2 7 8 1 1 2 2 5 8 x 2 7 4 x 1 3 4 2 x 1 1 4 2 x 1 4 2 x 1 1 4 2 x 1 4 2	Pou. Pou. Pou. Pou. Sep. Die. Pou.
Reo Flying Cloud Reamer8-78 Reamer8-80	LycGT Lyc. 4 HM Lyc4H Own40-50	6-314x5 8-234x434 8-314x41/2 8-314x41/2 6-41/2x434	25.2 24.2 33.8 33.8	298.6 298.6 453.5	4.8 4.8 4.94 5.00 5.00	73-2800 84-2900 84-2900	Ver. Ver.	4 Ru. 4 Ru. 4	8 8 8 3	Ir Ir Ir‡ Ir‡ Al‡.	PS PS	L L L	SiCh SiCh SiCh SiCh	Ch Ch Ch He	MOR.	CI CI CI	315 4 31/2 31/2 31/2 31/2	26 26	$2\frac{5}{16}$ $1\frac{15}{16}$ $1\frac{15}{16}$ $1\frac{15}{16}$	4-4 3-3 4-4 4-4 4-4 6- 5-5	7/8x27/8 7/8x27/8 7/8x27/8	Pis Rod Rod Rod	Car. DFS Car. Car. Car. ASt. ASt.	8 16 10 2 9 2 9 9	40 37 42 42	17/8x136 216x11/2 21/8x11/4 21/8x11/4 21/8x11/2	Pou. Pou. Pou. Pou. Sep. Sep.
star	Own F 6-85 Own G 8-85 Own	6-3½x5 8-3½x5 6-3¾x4½ 6-3¾x5 8-3¾x4¾	29.40 39.20 27.34	385.0 242.0 354.0 313		36-2400 82-2600 112-2800 50-2200 75-2400 100-3000 115-3600	Ver. Ver. Ver. Ver. Ver.	4 Ru. 3 Ru. 4 Ru. 4 RR. 4 3	. 6 . 8 . 6 . 6	Al‡. Ir Ir‡ Ir	PS Al PS	S S L L	S SiCh SiCh SiCh	Ch Ch He He	Own	CI CI CI	$\begin{array}{c} 4 \\ 4\frac{5}{32} \\ 4\frac{8}{32} \\ 4\frac{11}{16} \\ 4\frac{14}{4} \\ 4\frac{3}{16} \end{array}$	1827	$\begin{array}{c} 1\frac{11}{16} \\ 2\frac{5}{16} \\ 2\frac{5}{16} \\ 2\frac{5}{16} \\ \vdots \\ 2\frac{17}{323} \\ 2\frac{13}{32} \\ 2\frac{17}{16} \end{array}$	3-3 4-4 4-4 4-5 4-3 4-4 3-3	\$\frac{31}{32}x3\frac{1}{8}\$ \$\frac{31}{32}x3\frac{1}{8}\$ \$\frac{7}{8}x3\$ \$\frac{1}{5}x2\frac{55}{5}\$	FF Pis Pis Pis FF	Car. Car. St St	12 16 12 10 11 14	48	1½x1¼ 25%x1¾ 2¼x15% 2x1½ 2¼x13% 2¼x13% 2¼x13% 2¾x13%	Pou. Pou. Pou. Pou. Pou. Pou.
/elie Std. 50 /elie 6-66 /elie 6-77 /elie 8-88	Own56 Own52	6-33x41/4 6-33x45/8	24.4	196.0 203.5 221.0 298.6	4.53	48-2600 56-2800 60-2900 99-3200	Ver. Ver.	3 Ri. 3 Ru. 3 Ru. 4	6 6	Ir Ir	PS	I I J L		He He Ch	GE	CI CI CI Als	$ \begin{array}{r} 3^{1} \\ 3^{1} \\ 3^{7} \\ 3^{7} \\ 3^{1} \\ 2 \end{array} $	22 28	$1\frac{7}{8}$ $1\frac{7}{8}$ $2\frac{1}{8}$ $1\frac{15}{16}$	4-3	7/8x27/8 7/8x27/8	Rod Rod	Car. Car. Car.	8½ 8 10 9		2x15/8 23/4x11/2 21/4x11/2 21/8x11/2	Pou Pou Pou Pou
Willys Kni' Std. 6 Willys Kni' Spec. 6 Willys Kni' Great 6	Own Own70 A Own66 A	6-215x43/8	20.7 20.7 27.34	177.9	5.5	45-3000 53-3000 70-3200	Ver.	4 3	6	Irt	PS PS	S S		Ch Ch		Als Als	35/8 41/4		2 2 7 16	4-4 3-3 4-4	51x234	Rod	DFS DFS ASt.	10		17/8x1 5 2x1 5 21/8x1 1/2	Pou. Pou. Pou.

ABBREVIATIONS:

°—Others used.

ABos—American Bosch.

Al—Aluminum.

A-L—Auto-Lite.

AM—Air Maze. Asco—Ascoloy. ASt—Alloy Steel. ATC—Air Tube Cellular. Au—Automatic. B—Battery.
Bal—Ball and Ball.

Bo—Bevel Gear Overhead Camshaft
Br—Bronze.
Car—Carbon Steel.
Car—Carter—(Carburetor)
CCNA—Carbon Chrome Nickel
Alloy.
Ce—Centrifugal
Cell—Cellular.
CF—Cross Flow.
Ch—Chain.
ChN—Chrome Nickel.
Cl—Cast Iron.

-Cast Iron. -Chain, Overhead Camshaft.

CoCh—Cobalt Chrome Steel.
Cont—Continental.
CSM—Chrome Silica Manganese.
DeJ—DeJon.
DF—Distillation and Filtration.
Dfa—Drop Forged Aluminum.
DFS—Drop. Forged Steel
Di—Distillation
Dia—Diamond Chain
Dia—Die Cast.
DM—Direct Mechanical (Sliding
Gear.)

D-R—Delco Remy.
Dur—Duralumin.
Dyn—Dyneto.
Ec—Eccentric.
Ep—Electric Pump.

Feb — Electric Pump.
F—In head and side.
F&T — Fin and Tube.
Fed — Fedders.
FF — Full Floating.
Filter.

FV—Filtration and Ventilation. GE—General Electric.

Ge—Gear.
Gra—Gravity.
Ha—Hand.
Har—Harrison.
He—Helical Gear.
I—Valve in Head.

No.

No.

In—Inergan Ir—Iron. Jam—Jamestown. Joh—Johnson. L—"L" Head. Tink Belt.

German Makers Analyze Mechanical Features of All 1928 Models

HE Association of German Automobile Makers has just published a most interesting chart giving a fair idea of the main technical features of 1928 cars in all producing countries. No less than 305 various makes and in all 679 models have been examined. Of these 38.1 per cent were French, 22 per cent British, 15.1 per cent American, 8.5 per cent German, 5.2 per cent Italian, 3.9 per cent Belgian, 2.3 per cent Austrian, 2.3 per cent Spanish, 2 per cent Czecho-Slovakian and 0.3 per cent each Swiss and Hungarian.

It was found that 36.2 per cent of all models have a piston displacement above 1.1 liters but not exceeding 2 liters (122 cu. in.), 22.1 per cent belong to the 3 liter class (183 cu. in.), 15.6 per cent to the classes up to 1.1 liters (67 cu. in.). Then follow the 4-liter cars (244 cu. in.) with 12.7 per cent, the 5-liter cars (305 cu. in.), with 6.8 per cent, the 6-liter (366 cu. in.) and the cars exceeding that volume each with 3.3 per cent. As regards the number of cylinders, it was found that 52.5 per cent of the cars have four-cylinder engines, 34.8 per cent have six cylinders, 9.4 per cent eight cylinders, 0.9 per cent single cylinders, 0.3 per cent 12 cylinders, 1.8 per cent two cylinders and 0.3 per cent three cylinders.

The cylinder heads are detachable in 86.3 per cent The valves are arranged standing in of all models. 42 per cent and in the head in 48.95 per cent, just about half of which are operated by overhead camshafts. Also, 6.3 per cent of the models have no valves, 1.6 per cent are two-strokes, 1 per cent have F-head and 0.15 per cent have horizontal valves. The ignition is overwhelmingly still by magneto, which is found on 69.3 per cent, while battery ignition is employed on 26.1 per cent of the models. On 4.3 per cent of the cars double ignition is used and 0.3 per cent have flywheel magnetos.

Cooling is effected in 52.15 per cent of all models

Car Engines—Continued



		CRA	NKSHAFT		(DILING	G		C	OOL	ING ST	STEM		FI	UEL SY	STEM				E	LECTR	RICAL	SYST	EM			
	Main Bearings								Ra	diator				Clea		1	gnitie	on	ter			Bai	tery		CAR		
Offset (Ins.)	Counterbalanced?	Tersional Vibration Damper?	Number Front Diameter and Length	Rear Diameter and Length	System Type	Pump Type	Cleaner Type	Туре	Thermostat?	Shutters?	Make	Care Type	Shell Material	Carburetor Make and Size (Ins.)	Feed Type	Make	Type	Make	Current Source	Spark Control	Generator and Starter Make	Starter Engagement	Length	Width	Height	Volts and Ampere-Hrs.	MAKE AND MODEL
		No.	4 21/4x176 3 17/8x2	2½x2½ 1½x1¾	PC	Ge	Fi No	Pu Pu	No	Ha No	Har Own	RiC	PS	Seh1 Til1	Mp Vac	No	No	D-R. A-L.	В	Au	D-R. A-L.	DM. In		x7x77		6-80	Oldsmobile Overland(4)Whippe
No	Yes. No	No No No	7 25 6x 9 25 6x 7 23 6x 137 7 23 6x 137 7 23 6x 233 3 24 x 284 7 25 6x 7 21 4x 284 3 118 x 156	23/8x23/8 23/8x27/6 21/4x34/4	PF PH PH PH PA	Ge Ge	No Fi Fi Fi Fi	Pu Pu Pu Pu Pu Pu	Yes. No No No Yes. Yes.	Au Au Au Au	Har Har Fed Har Fed	RiC RiC Cell Cell Cell CF	PS PS PS PS	Own Own Str. 114 Str. 114 Str. 114 Str. 114 Str. 112 Own. 2 Car	Vac Vac Vac Vac Vac	AC AC AC	No In In In In	D-R. A-L. A-L. A-L. D-R.	B B B B	S-A S-A S-A	Dyn. A-L A-L A-L D-R.	In In In In In	13½ 9½ 10¾ 10½ 12½ 13×7	(x71/4x (x71/4x (x7x9) (x7x9) (x71/4x (x71/4x (x7x9)	93/4 91/4 91/4	6-160 6- 6- 6- 6- 6-111 6-160	Packard. 526-53 Packard. 44 Peerless. 6-6 Peerless. 6-9 Peerless. 6-9 Peerless. 8-6 Pierce-Arrow. 8 Pierce-Arrow. 3 Pontiac.
lo	No No No	Yes.	7 2½x1½ 7 2½x2¾ 5 2¾x1¾ 5 2¾x2½ 5 2¾x25% 7 7	2½8x1½8 2½8x2¾4 2¾8x1¾4 2¾8x25% 2¾8x25%	PC PC PD	Ge Ge Ge Ge	Fi No No	Pu Pu Pu Pu	No No No No	No No No No Ha	Har Own		PS	Sch. 11/4 Sch. 11/2 Sch. 11/4 Sch. 11/2 Sch. 11/2 Own	Vac Vac Vac Vac	AM No No No	No No No No	A-T.	B B B B	S-A S-A S-A S-A	N-E D-R. A-L. A-L. West. Own.	DM In In In Mag.	10 ³ / ₈ 10 ³ / ₈ 10 ³ / ₈ 10 ³ / ₈	x71/4x x71/4x x75/6x x71/6x x71/6x x71/6x x73/8x	918 934 934 934 916	6-111 6-130 6-130 6-130 6-120	Reo Wolverin Reo. Flying Clou Roamer8-7 Roamer8-8 Rolls Royce Si Gh Rolls Royce N. Ph
Vo	No Yes. No No	No	7 25/8x216 9 3x233 4 115x233	25/8x45 3x3 21/8x213 21/6x316 25/8x217	PB PH PH	Ge Ge Ge	Fi Fi Fi Fi	Pu Pu Pu Pu	No Yes. Yes. Yes.	No No No No	Fed Fed McC McC Long.	RiC ATC ATC F&T F&T Cell	SB SB PS PS	Til1 Ti Til1½ Str1 Str1¼ Sch1½ Zen1¼	Mp Mp Mp Mp	Til Til No No	Ce No No No	D-R.	B B B B	S-A S-A S-A S-A	DeJ DeJ D-R.	In In In Ch DM	17x7 17x7 916 1038 1038	x7¼x ¼x9⅓ ¼x9⅓ x7¼x x7¼x x7¼x x7¼x	4 934 934 984	6-192 6-192 6-90 6-111 6-111	Star Stearns Kni'.F6-8 Stearns Kni' H&8-8 Studebaker Die Studebaker. Com Studebaker. Pres. Stutz Bi
Vo	Yes.	Yes. Yes. No Yes.	4 2½x2¼ 4 2½x2¼ 4 2¾x2¼ 5 2¾x2¾	2½x3 2½x25% 2¾x25% 2¾x25% 2¾x25%	PF	Ge	Fi	Th	No	No	Jam Jam	RiC RiC RiC	PS	Str1 Str Str Str	Vac	No	No	A-L D-R	B	S-A	A-L. A-L. D-R. D-R.	In	918 078x	x7x9; x7x9; 7x9; x7x9;	8	6-90 6-102	Velie 6-6 Velie 6-6 Velie 6-7 Velie 8-8
		No No	7 214x2 7 214x2 7 214x2 7 212x111	2½x2½ 2¼x2½ 2½x2¾		Ge	Di	Pu.	Yes.	No	Own	Cell Cell	St	Til Til Til	Vac	Til	Ce	A-L A-L A-L.	B	S-A	A-L A-L A-L	In	113/4	x7x8} x7x8} x7x8}	8	6-142	Willys Kni' Std. [Willys Kni' Spec. Willys Kni' Great

Mar—Marvel.
Mag—Magnetic Shift.
McC—McCord.
Mod—Modine.
MOR—Morse.
Mp—Mechanical Pump.
M. F. North Foots Mp—Mechanical Pu N-E—North East. NiS—Nickel Silver. NiSt—Nickel Steel.

Optional.

Pressure to mains rods, pins and cam-shaft

PB-Pressure to mains, rods and

PB—Pressure to mains, rods and timing case
PC—Pressure to main and connecting rod bearings only.
PD—Pressure to mains, rods, wrist pins.
PE—Pressure to mains rods, wrist

wrist pins.

PE—Pressure to mains, rods, wrist pins and timing case.

FP—Pressure to all bearings including wrist pins.

PG—Pressure to mains, rods, camshaft, timing case.

RiC-Ribbon Cellular.

PH—Pressure to main, connecting rod and camshaft bearings.

Pis—Piston.
Peu—Poured.
Pre—Pressure.
PS—Pressed Steel.
PS—Splash with pressure (Oiling system.)
Pu—Pump.
RAM—Ramsey.
Ri—Rigid. RR-Rubber & Rigid.

Rk—Rubber & Rigid.
Ru—Rubber.
RV—Rotary Vane.
S—Sleeve Valve.
S-A—Semi Automatic.
SB—Sheet Brass.

-Sneet Brass,
-Schebler.
-Separate Liner.
-Silicon Chrom
-Spring cushioned
-Special. e Steel. -Special.
-Semi Steel.

Str—Stromber T—"T" Head.

with the assistance of a water pump; 44.6 per cent have thermo-syphon cooling; 3.1 per cent are air-cooled and 0.15 per cent are steam-cooled. Coming now to the transmission, it was found that 57.8 per cent of the cars have single-disk clutches, 25.5 per cent multipledisk, and 15.5 per cent cone clutches; the remaining consist of a variety of types including expanding band clutches. Of the gear boxes 83.7 per cent are united with the engine, 15.6 per cent are separate, while 0.7 per cent form a unit with the rear axle. Four-speed gear boxes are in the majority as they are to be found on 58.2 per cent of all models; 39.8 per cent have threespeeds; 1.3 per cent have two speeds and the remaining 0.7 per cent are of the automatic type used by Sensaud de Lavaud, d'Aux, Francon, Constantinesco and Bucciali Freres.

In 79 per cent of the models the gear lever is in the center of the car, 20.4 per cent of the models have the levers at one side and 0.6 per cent have no lever. The propeller shaft in 56.1 per cent of the models is of the open type; 40.9 per cent have tubes; 2.1 per cent of the models have chain drive, and 0.75 per cent have front wheel drive. The remaining 0.15 per cent have belt drive, these being, of course, very light cyclecars. The

final drive is effected in 87.1 per cent by bevel gears: 4.9 per cent have no differential; 4.6 per cent have worm drive, 2.7 per cent are equipped with spur-wheels; 0.4 per cent have hypoidal cut teeth and 0.3 per cent have a ball differential.

The wheels for 48.2 per cent of the models are of the wire spoke type. Steel-spoke wheels are employed on 20.2 per cent of the cars, disk wheels on 17.1 per cent, wood wheels on 14.1 per cent and aluminum wheels on 0.4 per cent. Mechanical four-wheel brakes are found on 75.6 per cent, hydraulic on 8.1 per cent and suctionoperated mechanisms on 7.4 per cent of the cars.

Half elliptic springs are, of course, predominant, 88.5 per cent of all models having them at the front and 68.9 per cent at the rear also.

This being a compilation by a German association, the special figures for German cars are also given. As regards the size of engines in German cars, it is found the two and three liter cars each account for 26.7 per cent of German models, 20 per cent are four-liter cars, while 11 per cent are cars up to 1.1 liters. Six cylinder models are now more numerous than four-cylinders, the former accounting for 46.7 per cent and the latter 42.2 per cent.



1928 Body and Equip

NOTE: The body models listed below represent the lowest pri

	(GENE	RAL			_			В	ODY								E	QUI	PME	NT			
					e e				Covering	Materials			P			*								
MAKE & MODEL OF CHASSIS	Body Model	Price \$	Wheelbase (In.)	Tire Size (Ins.)	Weight of Complete Car (Lbs.)	Number of Doors	Body Framework Material	Body Panels	Rear Upper Quarter Sections	Upholstery	Тор	Type of Finish	Type of Windshield	Type of Wheels	Bumper	Snubbers or Shock Absorbers Fitted?	Windshield Wiper	Trunk Rack	Engine Thermometer	Dash Gas. Gage	Car Heater	Cigar Lighter or Smoking Set	Clock	Locks and Their proof devices
Auburn	Touring	1295	120 120	28x5.25 28x5.25		4	M&W M&W	Steel.	Steel	11	#	Pyrox		A. A.	Yes.		Yes.		Yes. Yes.		No		No No	I, G D, I, G.
Auburn88	Touring Sedan	1595	125 125	30x6.00 30x6.00		4	M&W M&W	Steel.	Steel	‡‡	##	Pyrox		Λ	Yes. Yes	Yes. Yes		No Yes.	Yes. Yes.		No	Yes.		G, I D, G, I.
Auburn 115	Touring	2095	130	30x6.20 30x6.20		4	M&W M&W	Steel.	Steel	‡‡	1 11	Pyrox		A		Yes.	Yes.	No.	Yes.	Yes.	No	Yes.	No	G, I D, G, I.
Buick	Touring DeL.	1225	1141	31x5.25	3040 3215	4 2	M&W M&W	Steel.	Fabre	Leather Mohair	Fabric. R C F.	Pyrox	1 4	A		Yes.		No.	Yes.	Yes.	No	No	No	I, S, T.
Buick 120	Sedan	1495 1525	120	33x6.00 33x6.00	3870	2	M&W M&W	Steel.	Steel Fabric	Mohair	R C F.	Pyrox		A		Yes.	Yes. Yes.	No.	Yes.			No	No	D,I,S,T
Buick 128	Bro. Sedan	1925 3450	128	33x6.00 32x6.75	14050	2	M&W Wood	Steel.	tt	Monair. Mohair. Leather Mohair. Leather. Optional. Mohair Leather Mohair. Mohair	R C F.	Pyrox		A	No.		Yes. Yes.	No.	Yes.	Yes.	No		No Yes.	D,I,S,T
Cadillac	Town Sedan	3395 1525	140	32x6.75	4845	4	Steel	Steel	Steel	Optional.	Py-Fa.	Pyrox		A	Yes.	Yes.	Yes.	No.	Yes.	Yes.	No	Yes.	Yes.	G, T. D, G, T
	Touring	995	109	32x6.75 32x6.00 30x5.00 30x5.00 32x6.00	2475	4	M&W M&W	Steel.	Steel	Leather	Py-Fa.	Pyrox		A	No.	No.	Yes.	No.	No.	No.	No	No	Yes. No	I
Chandler Spec. 6 Chandler Roy. 8	Sedan	1995	124	32x6.00	3760	4	M&W	Steel.	Steel	Mohair.	Py-Fa.	Pyrox		A	No.	No.	Yes.	No.	Yes.	Yes.	Yes.	Yes.	No Yes.	D, I
Chevrolet	Touring	585	107 107			2	Wood	Steel.	Steel	Plush	RCF.	Pyrox		D	No.	No.	Yes.	No.	No.	No.	No	No	No	I, S D, I, S.
Chrysler52		695	153‡ 153‡	30x4.50 29x4.75 29x4.75	2130 2300	2	Wood	Steel.	Steel	Leather Mohair Leather	RCF.	Pyrox		A	No.	No.	Yes.	No.	No.	No	No	No	No	F
Chrysler 62	7 Touring	1095	156‡ 156‡	28x5.25 28x5.25	2855	2	Wood	Steel.	Steel	Mohair	RCF.	Pyrox	1	A	No.	. Yes.	Yes.						No	F
Chrysler72 Chrysler1mp. 80	Town Sedan Sedan	2945	1721 191	30x6.75	5 4185	4	Wood	. Steel.	Fabric Steel	Mohair	1 ++	Pyrox		A	Yes	. Yes.	Yes.						Yes. Yes.	F D, F, I.
CunninghamV-7	Spt. Touring	7600	132 132	33x6.78 33x6.78	5 4700	2	†Wood.	. Alun	Optional	Leather Opt	Option .	+ Varniel		C.	Yes	. Yes.							Yes. Yes.	I, T D. I
Davis	Touring	1885	119 119	30x6.00 30x6.00	03275	4	Metal Metal	Steel.	Fabric Steel	Leather Mohair	RCF.	Pyrox. Pyrox. Pyrox. Pyrox.		A.	Yes	Yes.			Yes.				No	G D, G
DianaSt. 8	Phaeton	1695	1251	32x6.00	0 3100 0 3170	4 2	M&W M&W	Steel.	Steel	Leather	R C F.	Pyrox		A	No.	Yes.	No.	No.	Yes.	Yes.	No	No	No	G D. G
Dedge	Touring	795	116 108	31x5.28 29x5.00	2581 2600	4	Steel	Steel.	Steel	Leather.	RCF.	Pyrox		I A.	No.	No.		No.		No.	No	No	No	D
Dedge Vict. 6 Dedge Senier 6	SedanSedan	1095	112 116	29x5.00 31x6.00	0	4	Steel M&W	Steel.	Steel	Broad	††	Pyrox		1 A.	1.11	Yes Yes	Yes.	. ††	ht No.	Yes.	111	111	tt No	D
duPont E&F	Touring	2800	125° 125° 107	32x6.20 32x6.20	0 8830	4 2	M&W	Alum.	Fabric		Fabrie. R C F.	. Pyrox		2 A. 1 A.	. Yes	. Yes.	Yes	No.	Yes.	Yes.	No	Yes.	Yes.	I
Durant55	Sedan	795	107	29x5.00	0	2	Wood	. Steel.	Fabric	Cord	Py-Fa.	Pyrox		1 A.	No.	. No.	Yes.	No.	No.	No.	No.	No	No.	D, I
Durant65	Sedan	975	110 110	29x5.00 29x5.00	0	2	Wood	Steel. Steel	Fabric	Leather	Py-Fa.	Pyrox		1 A.	No.	. Yes	Yes	No.	. Yes	Yes	No	No	No	D
Durant75	Touring	1295	119 117	29.5.50 28x5.28	5	4	Wood	. Steel.	Steel	Mohair°.	Py-Fa.			1 A.	No.	. No.	Yes.	No.	.INo.	Yes.	No.	No	No.	F. G
Elear6-70	Touring	1395	117 123	28x5.28 28x5.28 28x5.56	0	4	Wood	. Steel.	Steel Py-Fa	Mohair Leather.	Py-Fa:	Pyrox		1 A. 1 A.	No.	.No.	Yes.	No.	No.	Yes.	No.	No	No.	D, F, G
Elcar8-78	Touring	1695	123	28x5.50	0	4	Wood	. Steel. Steel.	. Steel Py-Fa	Mohair Leather.	Py-Fa.	Pyrox		I A.	Yes	. Yes.	Yes	No.	.No.	Yes.	Yes.	No	No	D, F, G F, G, T
Elcar 8-82 Elcar 8-91			123	30x6.00	03895	4	Wood	. Steel. Steel.	Steel	Mohair Velour	Py-Fa. Py-Fa.	Pyrox			Yes	. Yes.			No.	Yes.	Yes.	Yes.	No Yes.	D,F,G,
Elcar8-92	Touring	2465	134	32x6.20 32x6.20	N13995	4	Wood	. Steel.	. Py-Fa Steel	Leather. Mohair. Velour. Leather. Velour.	Py-Fa. Py-Fa.	Pyrox		1 B.	Yes Yes	Yes.			. No.	Yes.	No.	Yes.	Yes.	F, G, T D,F,G,
Erskine 6	Tourer Sedan		107	29x4.7 29x4.7	5 2300 5 ††	4 2	Wood	. Steel.	. Steel	Velour.	Pv-Fa.	Pyrox.		I A.	Yes	Yes.	Yes	No.	No.	Yes.	No.		No	I, S D. I. S.
EssexSuper 6	I Snt. Touring	++	1101	6130v5 00	01 ++	14	Steel Metal	. Steel.	Steel	Leather . Velour	Fabric.	. Pyrox		I A.	No.	No.	Yes.	No.	Yes. Yes.	Yes. Yes.	No	No.	No	I, G. D, I, G
Falcon Knight12	Sedan(Phaeton	1098	1091	2 30x5.00 2 29x5.50 2 30x4.50	2800	2	Wood M&W	Steel.	Steel R C F	Mohair.	Py-Fa.	Pyrox		l	Ne.	Yes.	Yes.	No.	No.	No.	No.	No	No.	D I
Ford	Sedan	495	1033	2 30x4.50	0	2	M&W Wood	Steel.	. Steel	Wo-Fa	Py-Fa.	Pyrox		B.	Yes	Yes.	Yes.	No.	No.	Yes.	No.	No.	No.	D. I
Franklin	1) Victoria	2740	119	32x6.00	3440	2	M&W Wood	A&S.	Fabric	Broad Mohair	Pyrox.	Pyrox.		A.	No.	No.	No.	No.	No.	Yes.	No No No	No.	No.	D, I, T
Gardner DeL. 75	Vic. Coupe	1395	122 122 122	28x5.24 31x6.06	5 3290	12	Wood	. Steel.	. Steel	Mohair	Py-Fa.	Pyrox		HA.	. I Yes	Yes.	I Yes	.INo.	.IYes	Yes.	Yes.	Yes.	Yes.	
Gardner85 Gardner95	Brougham	2275	130	32x6.00	0 3690	4	Wood	Steel.	Steel	Velour	Py-Fa.	Pyrox	.1	ID.	. Yes	Yes.	Yes	. Yes	Yes	Yes.	Yes.	Yes.	Yes.	D, F, I D,F,I,G
Graham-Paige 614 Graham-Paige 614	11	11	114	29x5.00 29x5.25	5 ††	1	M&W.	Steel.	1 #	. "	1 #	Pyrox	1 1	A.	Yes	. Yes.	Yes	No.	. Yes	Yes.	No.	No	No.	D,I
Graham-Paige619 Graham-Paige629	Sedan	1985	119 129	29x5.50 31x6.00	ol tt	H	M&W	Steel.	: #	#	##	Pyrox	1 1	D.	. Yes	Yes Yes	Yes	. Yes	. Yes	Yes.	No.	No Yes.	Yes. Yes.	T
Graham-Paige835 HudsonSuper 6-9	Sedan	1450	135 1273	31x6.20 4 31x6.00	0 3720	4	M&W.	Steel.	Steel	Mohair.	Py-Fa.	Pyrox	.1	1 A.	Yes No.	. No	. Yes	No.	. Yes	Yes.	No.	Yes.	Yes.	D, I, G
Hudson Super 6-S Hupmobile Cent. 6		1345	114	2 31x6.06 29x5.56	0 2975	2 2	Steel M&W	. Steel.	Steel	Velour Mobair	RCF.	Pyrox		1 A.	No.	. Yes	Yes	No.	.INo.	Yes.	No.	. Yes.	No.	D, I, G D, G.
Hupmobile Cent. 8	Sedan	1825	120 125	31x6.00 32x6.00	0 3300	4	##	††	##	##	11	Pryox		1 A.	Yes Yes	Yes Yes	Yes Yes	No.	Yes.	Yes.	No.	Yes.	No.	DGI
Hupmobile125-8 JordanJE	Brougham	2095	125 116	32x6.00	$0 3515 \\ 0 3300$	4	M&W	. Steel.	Steel	Opt	RCF.	Pyrox		1 C.	No.	No. Yes	No. Yes	Yes No.	No. Yea	No. Yes	.No.	No.	No.	D
JordanR	Blue Boy	1495	107	28x5.2 28x5.2	5280052775	4	Wood M&W	. Steel. Steel.	Steel	Leather. Broad	RCF.	Pyrox		1 B(1 A.	Yes No.	Yes Yes	Yes Yes	No.	Yes Yes	Yes.	No.	. Yes.	Yes.	D,F,I,S F,I,S,T DFIST
Jordan J-1	Playboy Sedan	1545	116	32x6.00	$0 2915 \ 0 3200$	2	Metal Steel	. Steel.	Steel	Leather . Mohair	RCF.	. Pyrox		1 A.	No.	Yes Yes	Yes Yes	No.	Yes Yes	Yes. Yes	No.	No. Yes	Yes. Yes.	F,I,S,T DFIST
	Brougham	1888	117	30x6.00 31x6.20	013240	14	Wood	Steel.	Fabric	Mohair Leather.	Fabric.			1 A.	No.	No.	Yes	No.	Yes Yes	. Yes	. No.	.No.	No.	I, D
Kissel8-80 Kissel8-80S	Sp. Brougham Brougham	1895	125	31x6.20 30x6.0	0 3540	4	Wood	Steel.	Fabric	Mohair		Pyrox		1 A.	No.	No.	Yes Yes	No.	Yes Yes	Yes Yes	No.	. No.	No.	I, D
Kissel8-90		229	131	30x6.7	$\frac{5 3220}{5 3671}$	2	Wood	Steel.	:	Leather. Mohair	1 #	Pyrox	.1	IIA.	. INO.	No.	. I Y es	I.INO.	. Yes	. Yes	No.	No.	No.	I, D.
La Salle	Phaeton	248	5 125 5 125	32x6.0	0 3690	4	Wood Steel	. Steel.	. Fabric Steel	Leather .	Py-Fa	. Pyrox		1 A.	Yes Yes	Yes Yes	Yes	No.	Yes	. I X 68	INO.	. I X es.	. I Yes	D

ABBREVIATIONS:

††—Manufacturers did not supply information.

†—1927 Specifications.

†—Overall length.

Others furnished.

A—Artillery.

A & S—Aluminum and steel.

Alum—Aluminum.

B—Wire.

Broad—Broadcloth.

C—Optional.

Cord—Corduroy.

D—Disk (wheels).

D—Door (lock).

En Py—Enamel & Pyroxylin.
F—Fedeo Numbering.
Fab Lea—Fabric Leather.
G—Gearse.
L—Ignition.
M&W—Metal and Wood
Mo Vel—Mohair-Velvet.

O—Optional.

Py-Fa—Pyroxylin Fabric.

Pyrox—Pyroxylin Finish.

RCF—Rubber Coated Fabric.

S—Steering Wheel.

T—Spare Tire.

We-Fa—Wersted Fabric.

ment Specifications

ced 4-5 passenger open and closed bodies fitted on each chassis



		GENE	RAL						1	BODY		,						E	QUIF	PME	NT			4
					e e				Coverin	g Materials			P			*								
MAKE & MODEL OF CHASSIS	Body Medel	Price \$	Wheelbase (In.)	Tire Size (Ins.)	Weight of Comple Car (Lbs.)	Number of Doors	Body Framework Material	Body Panels	Rear Upper Quarter Sections	Upholstery	Тор	Type of Finish	Type of Windshield	Type of Wheels	Bumper	Snubbers or Shoc Absorbers Fitted?	Windshield Wiper	Trunk Rack	Engine Thermometer	Dash Gas. Gage	Car Heater	Cigar Lighter or Smoking Set	Clock	Locks and Theft proof devices
	Spt. Phaeton	4600	136	32x6.75	4910	4	M&W	Alum.	Fab Lea.	Leather	Fab Lea	Varnish.	2		Yes.			Yes.		Yes.	No	Yes.		G, I, T
Linceln8 Locomobile8-70	Coupe Sedan	4600 1975	122	32x6.75 31x6.00	3375	2 4	Wood	Steel	Alum Steel	Opt Broad	FabLea R C F	Varnish	1	A	Yes. Yes.	Yes.		No		Yes.	No	Yes. No	Yes.	D,G,I,T. D, G, I.
Locomobile8-80		2850 2850	130	32x6.00 32x6.00	3950	4	Wood	Steel	Steel	Leather Broad	RCF	H	1	A	Yes.		Yes.	No	Yes.	Yes.	No	Yes.	Yes.	D
Locomobile 48	Sportif Vict. Sedan Sportif	5900	142 142 138	33x6.75 33x6.75 33x6.75	5600	4	Wood Wood	Alum. Alum.	Alum	Leather Broad Leather	Leather Fabric	#	2 2	A	Yes. Yes. Yes.			Yes. No Yes.		No Yes.	No No	No Yes.		և, լ և, լ, т
Locomobile90		7300 3485	138	33x6.75 32x6.75	4842 4017	4	Wood	Alum. Steel.	Alum R C F	Mohair Leather	Leather	Pyrox	2	A	Yes. Yes.	Yes. Yes.	Yes.		Yes.	No Yes.	No No	Yes. Yes.	Yes.	D
MarmonE-75 Marmon68	Victoria	3485 1395	136	32x6.75 29x5.25	4346 2897	24	Wood	Steel.	Steel	Broad Mohair	RCF	Pyrox Pyrox	i	A	Yes.	Yes. No.	Yes.	No	No Yes.	Yes. Yes.	No	Yes. Yes.		D,I,T. F. D,F,G,I.
Marmon78	Speedster Sedan	1965 1895	120	29x5.50 29x5.50	3052 3104	4	M&W	Steel.	Steel	Leather Broad	RCF	Pyrox	1	A	No	No	Yes.	No	Yes. Yes.	Yes. Yes.	No	Yes. Yes.	Yes.	F,G,T. D,F,G,T.
McFarlanTV6	Spt. Touring	5600 6720	141	33x6.75	4700 5200	4	Wood	Alum.	Alum	Opt	RCF	Varnish. Varnish.	. 2	Α	Yes. Yes.	Yes.	Yes. Yes.	No	Yes. Yes.	Yes.		Yes.	Yes. Yes.	G, I D, I, T
McFarlanSt. 8		2650 3180	131	33x6.20	3400 3650	4	Wood	Alum.	Alum	Opt	RCF	Varnish. Varnish.	. 2	A	Yes.	Yes.	Yes.	No	Yes.	Yes.	No	Yes.	Yes.	D, I T.
Meen6-72	Touring	995	110 110	29x5.50 29x4.75	2340	4	Wood	Steel.	R C F	Opt. Opt. Opt. Mohair. Leather Velour	R C F.	Pyrox	. 2	Α	No	No	Yes. No	No	Yes. No	Yes.	No	No	No	D, G G
Moon	Coach. Touring Sedan	1195 1395	113	32x6.75 29x5.26 29x5.50 29x5.50 33x6.75 33x6.75 33x6.20 29x5.50 29x4.75 30x5.25 30x5.25	2560 2710	4	Wood M&W	Steel.	R C F	Leather	R C F Py-Fa	Pyrox Pyrox	. 2	D	No No No	No	No No No	No No	No No	Yes. Yes. Yes.	No	No No	No No No	D, G G D, G
Moon8-80		9105	195	31x6 20	3500	4	Wood	t†	tt	t† Leather.	Pabrie.	Pyrox	. 1	C D	No	No	Yes. Yes.	No No	Yes. No	Yes. Yes.		No	No No	D, G G
NashStd. 6	Sedan	845 1135	108 ¹ / ₄ 112 ³ / ₄	30x5.00 30x5.00 30x5.25 30x5.25	2450 2980	24	Wood	Steel.	Steel	Velour Leather	Fabric	Pyrox	1	D D	No	Yes.	Yes. Yes.	No	No	Yes. Yes.	No		No	D, G G
Nash Spec.	Sedan Touring	1 1340	121	32x0 00	13460	24	Wood	Steel.	Steel	Mohair Leather	Fabric	Pyrox	. 1	D	No	Yes. Yes.	Yes.	No	No Yes.	Yes. Yes.	No	Yes. No	No	D, G G
Nash Adv	Spt. Phaeton.	1425 1095	117	32x6.00 29x5.50	2620	4	Wood	Steel.	Steel Fabric	Mohair Leather	Fabrie Py-Fa	Pyrox		A	No Yes.	Yes.	Yes. Yes.	No Yes.	Yes. No	Yes.	No	No.	No	D, G G, T
OaklandAA-6	Spt. Touring	995	1131	29x5.50 28x5.25 28x5.25 28x4.75	2890	4	Wood	Steel.	R C F	Leather Leather Leather Mohair Fab Lea	R C F.	Pyrox		C	No Yes.	No Yes.	Yes. Yes.	No	No Yes.	Yes.	No.	Yes. No	No	D, G, T.
OldsmobileF28	Touring	925 455	1001	28x4.75 28x4.75	1985	4 2	Wood	Steel Steel	Steel	Fab Lea Corduroy	Fabric	Pyrox	1		No	Yes.	Yes. No		Yes. No	Yes.		No No	No	D, I
Overland Whippet. 4	Coach Phaeton	2275		32x6.00		4	Wood	Steel.	Steel	Leather	++	Pyrox			Yes.		Yes.	No	Yes.	Yes.	No	Yes.	No Yes.	D, L
Packard526		2285 2485	126	32x6.00 32x6.75	4000	4	Wood	Steel.	Steel	Broad Leather	#	Pyrox	1	D D	Yes. Yes.	Yes.	Yes. Yes.	No	Yes. Yes.	Yes. Yes.	No	Yes. Yes.	Yes. Yes.	D, I, T.
Packard533		2685 3975	133	32x6.75	4085	4	Wood	Steel.	Steel	Broad Leather	#	Pyrox Pyrox	1	D	Yes. No	Yes. No	Yes. No	No Yes.	Yes. No	Yes. No	No	Yes.	Yes. No	D, I, T I, T
Packard443	Club Sedan Phaeton	4450 1195	133 116	32x6.75 29x5.25 29x5.25	4710	4	Wood	Steel.	Steel Fabric	Broad Leather	Fabric	Pyrox	1	D A	Yes. No	Yes. Yes.	Yes. Yes.	No	Yes. Yes.	Yes. Yes.	No	Yes.	Yes. No	D. I, T
Peerless6-60	Sedan Phaeton	1295 1395	116	32x6.00	2850	4	Wood	Steel	Steel	Leather	Im Lea. Fabric	Pyrox	1	A	Yes. Yes.		Yes. Yes.	No	Yes. Yes.	Yes. Yes.	No	No	No	D, I, T I, T
Peerless6-80	Phaeton	1395 1695	120	32x6.00	2930	4	Wood	Steel.	Steel Fabric	Mohair Leather	Im Lea. Fabric	Pyrox	1	A	Yes. Yes.	Yes.	Yes. Yes.	No	No Yes.	Yes.	No	No	No Yes.	D, I, T. G, I, T.
Peerless8-69		1895 2345 3100	126	32x6.00 33x6.20 32x6.00	3875	4	Wood	Steel.	Steel	Velour	Im Lea. Im Lea.	Pyrox		D	Yes.	Yes.	Yes.	No	Yes.	Yes. Yes.	No	No Yes.	Yes.	D,G,I,T. D,G,I,T.
Pierce-Arrow81	Brougham	3250 5875	130	32x6.00 33x6.75	3560	2	M&W M&W M&W	Alum. Alum.		Leather	#	Pyrox Pyrox	1	A	Yes. Yes. Vos	Yes. Yes. Yes.	Yes.	No	Yes. Yes.	Yes.	No	No Yes.	Yes. Yes.	D, I, T. I, T.
Pierce-Arrow36 Pontiac6	Sedan	6375		33x6.75 29x4.75	4830	4 2	M&W Wood	Alum.	Alum Steel	fabrie	Py-Fa	Pyrox	1	A	Yes.	Yes. No	Yes.	No	No	No	No	Yes.	Yes.	D, I, T. D, I, G.
Reo Flying Cloud		1685	121	30x8.20	3425	2	Wood	Steel	Steel	††	Py-Fa	Pyrox	1			Yes.					No			D, G
Reamer 8-78	Sedan	1195 1795	120	28x5.25 32x6.00	3380	2	Wood	Steel	Steel	Velour	Py-Fa	Pyrox	1	111	Yes.	No †† Yes.	Yes.	No	No	Yes.	No	1 ++	++	D, I, S
_	Sedan:	1985	136	32x6.20 32x6.20 32x6.20		4	H		H	#	H	H	Ш	C	No	Yes.	No	No	No	No	No	No	No	##
Star4 Stearns KnightH	Sedan	2985 495 5500	107	29x4.40 32x6.75	11 11	2	Wood	Steel.	Py-Fa Steel	Cord Broad	Py-Fa Py-Fa.	Pyrox		A	No	Yes. No	Yes.	No	No	No	No	No	No	††
Stearns KnightJ	Touring	3950 4650	145	32x6.75 32x6.75		4	Wood Wood	Steel	Fabric Steel		Fabric	Pyrox Pyrox	1			Yes.	Yes.	No No No	Yes.	Yes.	No	Yes. Yes. Yes.		D, G D, G
Stearns Knigh'F6-85	Touring	3250	13734	32x6.75 32x6.75	4322	4	M&W M&W	Steel	Steel	Leather Broad	Py-Fa.	Pyrox		Δ	Yes. Yes.	Yes.	Yes. Yes.	Yes.	Yes.	Yes. Yes.	No.	Yes.	Yes.	G. D, G, T.
Studebaker, Dictator	Tourer	1195 1195	113	31x5.25 31x5.25	3000	4	Wood Steel	Steel	Fabric Steel	Leather Plush	Fabric Im Lea.	Pyrox	Spe	A	Yes. Yes.	Yes.	Yes. Yes	No No	Yes. Yes.	Yes.	No	No	No	I, G, T D,I,G,T.
Studebaker Com Studebaker Pres	SedanSedan	1495 1985	131	31x5.25 31x6.20	4000	4	Steel M&W	Steel	Steel	Mobair Broad	Im Lea.		Spe 1	A	Yes. Yes.	Yes.	Yes.	No	Yes. Yes.	Yes.	No	No	No	D,G,I,T. D,I,S,T.
StutzBB	Speedster	3495 3570	131	32x6.20 32x6.20	11	4	##	1	1	17	#	#	11	A	Yes. Yes.	Yes. Yes.	Yes. Yes.	Yes. Yes.	Yes.	Yes. Yes.	No	Yes. Yes.	Yes. Yes.	F, G, T D,F,G, T
StutzBB	Touring		112	32x6.75 30x5.25	2670	2	Wood	Steel	Fabric	Leather	Py-Fa.	Pyrox	1	A	Yes. Yes.	Yes. No	Yes.	Yes. No	Yes.	Yes.	No	Yes. No	Yes. No	D, F,G,T
Velie6-77	Sedan Sedan Metro Sedan	1165 1585	118	30x5.25 32x6.00 30x5.25	3365	4	M&W	Steel	Steel	Mohair	Py-Fa Py-Fa	Pyrox	1	A	Yes. Yes.	No Yes.	Yes.	No	Yes.	Yes.	No	Yes.		D
Velie8-66	Club Phaeton.	1195 2095	125	32x6.20 32x6.20		4	M&W M&W	Steel Steel	Steel	Mohair Mohair Mohair	Py-Fa.	Pyrox	1	A	Yes. Yes.	Yes.			No.	Yes.	No	No	No.	
Willys Kni. Great 6	Touring	1850 1995	126	32x6.20 32x6.00 32x6.00	3684	4	Wood	Steel Steel	Fabric Steel			Pyrox Pyrox	1	A	Yes. No No	Yes. Yes. Yes.	Yes.	No	No	Yes.		No	Yes	D, I, T I D, I
Willys Knight Spe. 6	Touring	1295	1131/4	31x6.00 31x6.00	2900	4 2	M&W Wood	Steel Steel	Fabric Steel	Leather Mo Vel	Fabric	Pyrox Pyrox	1	A	No	Yes.	Yes.	No	No .	Yes.	No	No	No	D, I D, I
Willys Knight Std. 6	Touring	11	1091/2	29x5.50 29x5.50	111	2	M&W		Steel	Mo Vel		Pyrox		A. A.	No.	Yes.	Yes.	No	No	Yes.	No	No	No	D, G
ABBBEVIATION						-							1			- 00.	_ 0.0							

ABBREVIATIONS:

††—Manafacturers did not supply information.

†—1927 Specifications.

†—Overall length.

*—Others furnished.

A—Artillery.

Continental Passenger Cars

	_	Standard Wheels	*
a navi		Steering	*** ** *** *** *** *** *** *** *** *** *** *** *** *** ** *** *** *** *** *** *** *** *** *** *** *** *** ** *** *** *** *** *** *** *** *** *** *** *** *** ** *** *** *** *** *** **
EAR		noitaraqO	DDM.
RUNNING GEAR	Brakes	Foot	REALIBERREALIS
RUNN		busH	
	188	Rear	
	Springs	Front	
		Torque Taken By	######################################
		Propulsion Taken By	
		Gear Ratio	$\frac{444}{4604}$. $\frac{60}{100}$. $$
SSION		Final Drive	600 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
TRANSMISSION		Universal Joints	Met. Met. Mach. Mach
TR	±	Position of Lever	ದರ್ಭದ್ಯವಾದರ್ಭದ್ಯದ್ಯದ್ಯದ್ಯದ್ಯದ್ಯದ್ಯವೃತ್ತದ್ಯದ್ಯವೃತ್ತದ್ಯದ್ಯವ್ಯದ್ಯವ್ಯದ್ಯದ್ಯದ್ಯದ್ಯದ್ಯದ್ಯದ್ಯದ್ಯದ್ಯದ್ಯದ್ಯದ್ಯದ್
	Gearse	No. of Forward Speeds	01 CO CO CO को
	_	Gearset Location	### ### ### ### ### ### ### ### ### ##
-		Voltage Clutch Type	
RICAL		Current Source	$oldsymbol{\cap}$
ELECTRICAL SYSTEM		Ignition System Make	E N Service of the control of the co
	Ĺ	Fuel Feed	
	Fuel	Carburetor Make	Gurtner. Soler.
	-	noitasirduJ	Splash
		Cooling System	A4. 1748
	mshaft	Drive	No. 2 Per la
	Cams	Lecation	
ENGINE		Piston Material	ਜ਼ਫ਼ਫ਼ <u>ਫ਼</u> ੑਫ਼ਫ਼ਫ਼ਫ਼ਲ਼ਲ਼ਲ਼ਲ਼ਫ਼
EN		Cylinders and Crankcase	20
	Jool	Valve Arrangement Cylind's Cast in One B	
		Cunic inches No. of Main Bearings	20000000000000000000000000000000000000
	-	Piston Displacement Cubic Inches	
		Bore & Stroke inches	25 28 28 28 28 28 28 28 28 28 28 28 28 28
		Bore & Stroke mm.	66.75 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
_	-	No. of Cylinders	3
		Tires (mm. or ins.)	28x3½ 27x4 27x4 27x4 27x4 27x4 27x4 27x4 27x4
		Tread (Ins.)	100 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
-	_	Wheelbase (Ins.)	**************************************
		MAKE	Anican Amicar Amicar Amicar Amicar Aries Aries Ballot Ballot Ballot Ballot Bare Bare Bare Bare Bare Bare Bare Bare

18 511730x130 1 4 70x105 12.75x4.01 | 971 311... | 418-pp. | Al. | CC. (Chain ThS... | Press. | Solex... | Vac... | Dress. | Solex... | Vac... | Dress. | Solex... | CC. | Chain | Press. | Solex... | Vac... | Dress. | Solex... | Vac... | Dress. | Solex... | Vac... | Dress. | Vac... | Dress. | Vac... | Vac...

FR Serve	WN-Worm and Nut. We-Worm Drive. WS-Worm and Sector. WW-Worm and Wheel. *-Fitted with supercharger.
20000000000000000000000000000000000000	T—Transmission. T—Torque Arm. T—SE—Transverse ½ Elliptic. T—SE—Transmission and Rear Wheels. Tr. Can—Transverse Cantilever. Trans—Transverse. Trans—Transverse. Transverse. Transverse. Transverse. Transverse. Wac—Vacquum. Wac—Victrix. W—Wire. Western Arman. Western Arman.
Columb	ropulsion). xle). th
R.B. M 6 6 6 6 6 6 6 6 6	22 52252525 22
This. Press. Soler. Grav.	OH—Overhead, Pin—Pinion. Pi—Phinon. Pin—Phanetary. Press—Pressure. Press—Pressure. P.Rh.—Paris Rhone. P.Rh.—Paris Rhone. R.Right (Gensellit lever location). R.—Unit with Rear Axle. R.B.—Robert Bosch. R.—Radius Rock.
10 10 10 10 10 10 10 10	-Valves in Head. L-'L' Head. L-'L' Head. M-Magneto. Ma-Magneto. MB-Magneto and Battery. MB-Magneto and Battery. MA-Macell. MA-Macell. MA-Macell. MA-Macell.
\$ 66,000 2.265.55 50 10 10 10 10 10 10	F—"F" Head (Valves). F—Front Wheels (Brakes). FB—Front Drive. FR—Front and Rear. FR—Front and Rear. FR—Front and Transmission. Gau—Gamont. Gau—Gamont. Holi—Hollow Spoke. Holi—Hollow Spoke. Holi—Hollow Spoke. Holl—Hypoid.
124 50 12445 4 61549 108 4 12445 4 61549 12445 4 61549 12445 4 61549 12445 4 61549 12445 4 61549 118 4 72445 4 63449 118 4 72444 4 63449 118 4 72444 4 6 6 6 6 6 6 6 6	Ch-Chain. Cl-Cast Iron Co-Cone. Do Disk. Dow—Dewndre. Dow—Dewndre. Dow—Dewndre. Dow—Dewndre. Dow—Duples. Eige-Eilengenan Eige-Eilengenan Eige-Eilengenan Eige-Eilengenan Eige-Eilengenan Eige-Eilengenan Eige-Eilengenan
Geneatin Geneatin Geneatin Geneatin Geneatin Geneatin Geneatin G. M. G. M. G. M. Harris Leen Lainne Harris Leen Lainne Harris Leen Lainne Hippano-Suia Hittu Induco	ABBREVIATIONS: A—Artillery. A—Artillery. Auf—Munium. Aute L—Auto Lite B—Barkery. Br—Barkery. Braw—Blower. C—Confrer. Cab—Cable Cant—Cantilever. CC—Crankcase.

110 52765x105 | 4 | 69x100 | 2.71x3 93 | 91 3 | L. | 4 | Sp. | Al. | CC | Pin. | ThS. | Press. | Zenith. | Vac. | Boseh. | M. | 12 | Sp. | Eng. | 4 | C. | 1 Met. | Sp. | 5.7 | TT. | TT. | 1.2 | Fr. | Fr.

O. M.

Continental Passenger Cars—Continued

				2007 000 9 10, 2000
_	Standard Wheels	48DDDD88888	DRARARBORRA	88444444888888 88880
	Steering	MAN	KAKAKAKAKA KAKAKAKAKA KAKAKAKAKA KAKAKAKAKA KAKAKAKAKA KAKAKAKAKA KAKAKAKAKAKA KAKAKAKAKAKAKA KAKAKAKAKAKAKAKA KA	WWW.WW.WW.WW.WW.WW.WW.WW.WW.WW.WW.WW.WW
EAR	noitarsqO	## ## ## ## ## ## ## ## ## ## ## ## ##	DM Servo Servo DM Servo DM	
RUNNING GEAR	7 100-T	HERERERERERERERERERERERERERERERERERERER	REE E E E E E E E E E E E E E E E E E E	HERRERERERERERERERERERERERERERERERERERE
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-	No. of Main Bearings	470	288 331. 288 331. 200 4 231. 200 7 28. 200 7 28. 2	128288
-	Piston Displacement Cubic Inches	7.2 244 48 305 772 147 771 170 772 122 773 122 774 172 775 172 775 172 776 146 776 66 777 172 777 172 777 172 772 122 773 1023 833 1023 834 1023 835 1023 837 1023 838 1023 83		
	Bore & Stroke inches	87x4 134x4 134x4 134x4 134x3 144x3 155x4 167x4 1	2.75x4.12 2.67x3.93 2.67x3.14 2.67x3.14 2.59x3.14 2.75x4.75 2.67x4.75 3.14x4.40 3.74x5.51 2.67x3.58	2.2.444. 23.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2
	Bore & Stroke mm.	73x120 80x114 80x120 74 6x111 74 6x111 74 6x111 74 6x110 75x10 6x10 6x10 6x10 6xx0 7x44, 5 6xx0 6xx0 7x44, 5 6xx0 7x44, 5 6xx0 7x44, 5 6xx0 7x44, 5 6xx0 7x41 7x10 7x10 7x10 7x10 7x10 7x10 7x10 7x1	70x105 90x140 68x100 68x100 66x80 70x128 66x92 66x92 70x128 95x140 75x120	62x82 77x110 77x110 77x110 77x120 68x100 68x100 66x120 66x
-	No. of Cylinders	0004044040044004444000	404440400040	00444044444444460004
	Tires (mm. er ins.)	33x6.75 33x6.75 15x60 17x8 77xx145 30x5.77 30x5.77 30x5.77 30x5.77 30x5.77 30x5.77 30x5.77 30x5.77 30x5.77 30x5.77 30x6.77 30x6.77 30x6.77	730x130 33x5 730x130 27x4.45 773x130 740x140 860x160 775x145 895x135 895x135 775x145	30x5.25 896x 60. 896x 60. 777x145 20x5.25 20x5.27 777x145 777x145 777x145 777x145 777x145 777x145 777x145 777x145 777x145 777x145
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 L		FF. Head (Valves). Fabront Wheels (Brakes). Fab-Fabric. FD-Front Drive. FR-Front and Rear. FT-Front and Transmission. Gau-Gamont. Hyd-Hydraulic. Hyd-Hydraulic. Hs-Hollow Spoke. Hs-Hollow Spoke. Hyg-Hypoid.
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	Stands	SBREVIATIO Artilles A trilles A trilles Batter W-Batter W-Blover Conter Abover Abover Canter Abover Canter Abover
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Continental Passenger Cars-Continued

		Standard Wheels		HHS	W. HHS. DD.	A E D D A A A D D D D	HS.	arget:
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RUNNING GEAR	Brakes	Foot		FR	FRR-T.	REEREREEREEREEREEREEREEREEREEREEREEREER	FR	/est—W
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		Torque Taken By		888877788888		11128888111138	Sp	Strom—Stromberg. T.—Transmission. T.A—Tronged Arm. T. J.E.—Transverse J.z. Elliptic. T. S.—Thermo sybon. T.R.—Transmission and Rear Wheels. Tr. Can—Transverse. Transverse. Transverse. Transverse. Vac.—Vacuum. Vac.—Vacuum.
		Propulsion Taken By		SS S T T T T S S S S S S S S S S S S S	TTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT	77778888877778	Sp	Strom—Stromberg. T—Transmission. T A—Torque Arm. T A—Torque Arm. T A—Transverse are are are are are are are are are ar
z	_	Gear Ratio		44444444000000000000000000000000000000	4 4 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	8.35 8.85 8.85 8.85 8.85 8.85 8.85 8.85	ro	Strong TT-7 TT-7 TT-7 TT-7 TT-7 TT-7 TT-7 TT-
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	-	Clutch Type		Eng. Eng. Eng. Eng. Sep. Sep. Sep. Sep. Eng. Eng.	Eng. Eng. Sep. Sep. Sep. Eng. Eng.	For Eng. Sep. Sep. Sep. Sep. Sep. Sep. Sep. Sep	Eng.	RR—Radius Rode. Scine—Schebler. Scin—Schebler. Sep—Separal. SP—Separal. SP—Separal. SP—Separal. SP—Separal. SP—Spiral Bevel (Rea. Sp—Spiral Bevel (Rea. Sp—Single Plate. Sp—Aluminum piston sear iron skirt. St—Straight Bevel
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		Fuel Feed	MA	Vac B Vac B Vac B Press B Press B Vac B Grav B Grav B Grav B	US VaeB VaeB VaeB GravB GravB GravB	HO-Caraca Barana	HUNC	pressur t lever le r Axle.
	Fuel	Carburetor Make	GERM	Juhasz. V Zenith. V Zenith. V Scheb. F Scheb. F Zenith. V Zenith. V Solex. C Solex. C Pallas. C	A Canith	ZECY Zenth	H Strom.	head. n. ary. matic. ssure. ssure. is Rhone Gearshif Srakes). with Rea
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		Cooling System		Pump.	Pump. P Pump. P Pump. P Pump. P Pump. P Pump. P Pump. P Pump. P	Ths P Pump Pump P Pump Pump P Pump	Ths P	
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4.3	Cam	Location		888888888888888888888888888888888888888	##55##55## #	555555555555555	cc.	Head Head H. J. S. Sesium He Dia ole Dia
ENGINE		Piston Material		APACCCAPAR	**************************************	######################################	Al.	Hypoin result in the control of the
EN		Cylinders and Crankcase		6 Sep	6 Sep	4 6 6 8 8 8 8 4 4 4 1 6 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	6 Sep	Hyp—Hypoid. I—Valves in Head. Inf—Integral. Le—Ireval. Magneto. Magneto. MB—Magneto. MB—Magneto. MB—Magneto and MB—Magneto. MB—Magneto. MB—Magneto. MB—Magneto.
	130	Valve Arrangement Cylind's Cast in One Bl			:::::::::::		T	sion.
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		Piston Displacement Cubic Inches		28.0 28.0 28.0 28.0 29.0 20.0 20.0 20.0 20.0 20.0 20.0 20	25 25 25 25 25 25 25 25 25 25 25 25 25 2	54 6 91 3 251 52 1 251 52 4 332 07 . 331 18 331 18 512 42 93 64 4 641 44 6	1 28	og Sho (Valve) (Valve) (Valve) d Read Trad Trad Trad Trad Trad Trad Trad Tr
		Bore & Stroke inches		2. 99x4 531 9 2. 83x6 301 5 2. 95x6 301 5 2. 36x4 652 1 2. 36x3 471 2 3. 07x4 642 0 3. 07x4 642 0 2. 36x3 74 0 2. 36x4 33 9 2. 38x4 721	2. 79x4 331 59. 2. 99x4 531 78 3. 3x5 122 69. 3. 15x5 122 69. 2. 28x3 46 56 7 2. 28x3 46 56 7 2. 45x3 46 95 5 3. 15x4 331 35 3. 46x4 332 44	16x3 54 36x3 46 75x4 25 75x4 25 93x5 33 95x5 33 74x4 33 722x3 93 52x4 72 15x4 64	2.64x3.941 28	Ex-Expanding Shoe. FTrp. Haad (Valves). F-Front Wheels (Brakes). Fab-Fabric Brakes). FB-Front Drive. FR-Front and Rear. FR-Front and Transmission. Gard-Gamont. HS-Hollow Spoke. Hsli-Helical Gear. Hsli-Helical Gear.
	-			76x115 75x160 75x160 77x16 2 60x88 2 78x120 3 77x10 7 70x10 60x95 60x95 7 72x120 7 72x120 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	110 129 130 130 130 130 130 130 130 130 130 130	01010101010101010101010101010101010101	67x100 2.	HHESSTAND THE STANDARD THE STAN
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	1	No. of Cylinders	_	24488404444				ever. chanic
		Tires (mm. or ins.)		32x6 33x6.2 33x6.2 30x6 28x5.25 31x5.25 33x6.20 28x4.95 730x130 740x135	820x120 820x120 895x135 3x6.20 3x6.75 730x130 775x145 860x160 885x135	715x115 29x5 32x6.27 32x6.27 32x6.27 775x145 775x145 710x90 710x90 710x90 710x10 710x10 710x10 710x10	29x5	Ch-Chain. Cl-Cast fron Cl-Cast fron Cd-Cam and Lever. Ce-Com D-Disk. DW-Dew-Dewndre. DW-Drivets Mechanical. Dupl-Dupler. Eise-Eiseman. Eise-Eiseman. Eise-Unit with Engine.
		Tread (Ins.)		80000000000000000000000000000000000000	500000000000000000000000000000000000000	88888874888888888888888888888888888888	8 57	Chair Cast J Cone. Cone. Disk. Disk. Disk.
		Wheelbase (Ins.)		138 122 123 123 123 123 123 123 123 123 123	136 144 1186 1186 1186	98 1128 1145 1166 1178 1178 1188 1188 1188 1188 1188	118	
				S8 S9 D12 D12 F6 W12	SP5 SP7 4/20	H.S. 110 120 360 8/40 8/40 8/30 9/36	:	
		MAKE		frent Gr er	Austro Daimler. Austro Daimler. Graef & Stift. Graef & Stift. Perl. 4/20 Steyr. Steyr.	Praga-Piccolo Praga-Mignen Praga-Mignen Praga-Grand Praga-Miles Pr	gosta.	ABBREVIATIONS: A—Artillery. A—Artillery. B—Bastery. B=B=Berel Gear. B=Ber—Borel Cear. C=Center. Cah—Cahliever. C—Canter. Cah—Cahliever. C—Canter. C—Canter.
				Steiger. Steiger. Steiger. Steewer. Steewer. Steewer. Steewer. Steewer. Voran, (fr. Wanderer	Austre D. Austre D. Austre D. Graef & Graef & Perl. Sieyr	Praga-Ali Praga-Ali Praga-Ali Praga-Gr Skoda Skoda Skoda Tatra (A Tatra (Walter Walter	Magosix.	ABBREV A—Artill AI—Alun Aute L— B—Batte Bev—Ber

British Passenger Car Chassis

	Chassis Weight (Lbs.)	1300 1350 1350 1350 1350 1350 1350 1350
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S	4-Wheel Brakes Type	MANAMAN MANAMA
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0.000000000000000000000000000000000000	E Tr—External Transmission. F=In Head and Side. Fab. Pabric. F & M—One fabric & one metal. F F—Full Floating. %FI—Semi-dosting. %FI—Semi-dosting. Fr—Priction Disk Transmission Feul—Oil mixed with fuel. Grav—Gravity.
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25	Cla—Claudel. Cl—Cast Iron. Cq—Cone. DM—Direct Mechanical. DP—Dual Plate. SEI—Take-dilptic. SEI—Three-quarter-Elliptic. SEI—Three-quarter-Elliptic. Eng—Unit with Engine. Eng—Unit with Engine.
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Just Among Ourselves

Thought as a Chemical Progress

A QUESTION that has long been interesting from the standpoint of metaphysical speculation now seems to be getting scientific study and attention. Dr. R. W. Gerard at the University of Chicago is engaged in experiments to show that thought is a mere chemical process. His theory, according to Associated Press reports, is that all nerve stimulation results in chemical reactions, which produce heat. If his theory should prove correct, the theory itself would then have been proved to be a mere chemical reaction. We mention this item by way of a contrast in this particular issue that the indefiniteness of matter may be considered along with the extreme and desirable definiteness of the factual data upon which we indefinite humans find it possible to build our definitely indefinite industries.

Difficulty in Telling Right From Wrong

BELIEVE that business can be run on a sound, high, fair basis . . . I want no profit derived from compromise with right." So spoke John D. Rockefeller, Jr., before the Senate oil investigation committee the other day. Plenty of other business leaders will agree with Mr. Rockefeller, applaud his sentiments and emulate his principles in action as best they can. The difficulty comes usually, however, not in any decision as to whether or not to rifle a cash register, but rather in a multitude of minor actions every day, where the definition of the terms right and fair are not at all clear and where such definitions vary strongly with the particular set of standards-or prejudices if you will-under which the executive making the decision happens to have been thrown in his earlier life. The same thing holds as regards soundness in the operation of an enterprise. Postmortem determination of business soundness is relatively easy; predetermination of the soundness of a policy is a real business job.

Where Statistics Are a Boon

In this latter work, however, improvement in statistical methods, accumulation and turning up of more and more industrial and marketing facts and close economic study and interpretation of those facts are helping out considerably. On the basis of recorded experience, predetermination of what will happen through the coming together again of a given set of conditions becomes slightly easier.

Lack of Flexibility Hindering Ford

A LL reports indicate that even yet Ford isn't getting into quantity production as quickly as he had expected. Tales of new difficulties continue. Quite evidently the Ford organization is in the throes of an attempted psychological change such as we talked about some two years ago when discussing the economic future of the big producer. Into an organization founded, built and trained on the idea of routine rigidity and standardization has come the necessity for adaptation to change, for some degree of flexibility. More modern design in the product probably has brought the need for closer tolerances in production; with the procurement of closer tolerances all along the line comes greater difficulty in making the work entirely automatic. Ford has worked wonders before and unquestionably he will work out with full success the problems which beset him at the moment. His task is not so easy, however, as it would be in an organization which had behind it a tradition of more or less constant change.

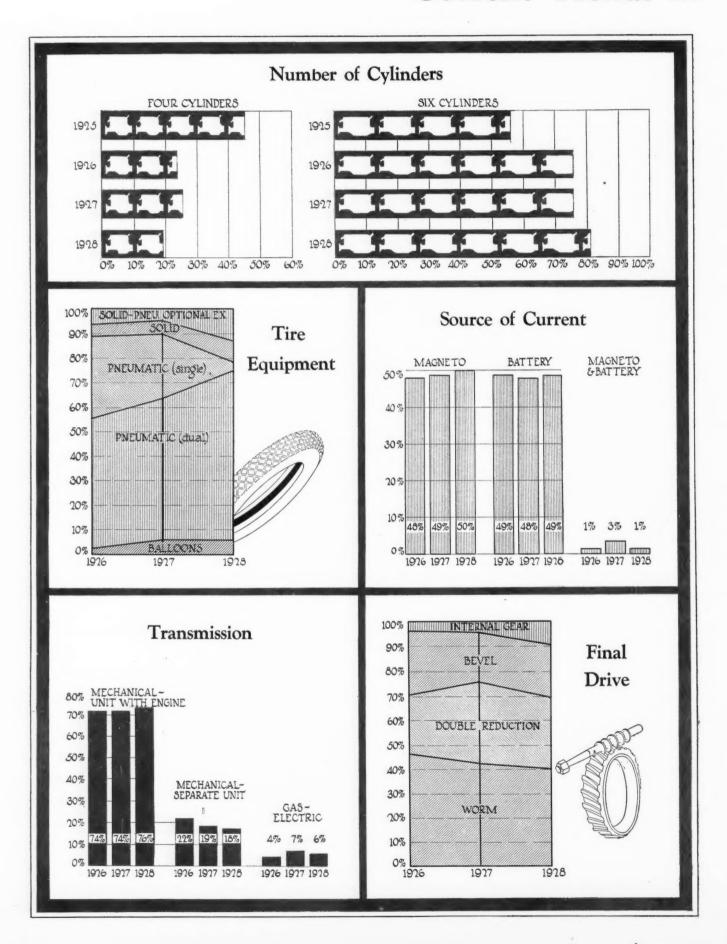
Power Visualized by Exhibitions

THE wonderful Ford industrial expositions in New York and Chicago furnished visual evidence to hundreds of thousands of the power and extent of the marvelous Ford industries. Certainly these shows fulfilled their announced objective of acquainting the public with the vast industrial organization back of the Ford vehicles, all designed to bring about every possible economy from raw materials, through the whole process of manufacture, so as to produce finished products of high quality at low Very impressive were cost. these expositions and clearly did they visualize the great inverted pyramid of vast industries resting on the Ford automobile as a point of focus.

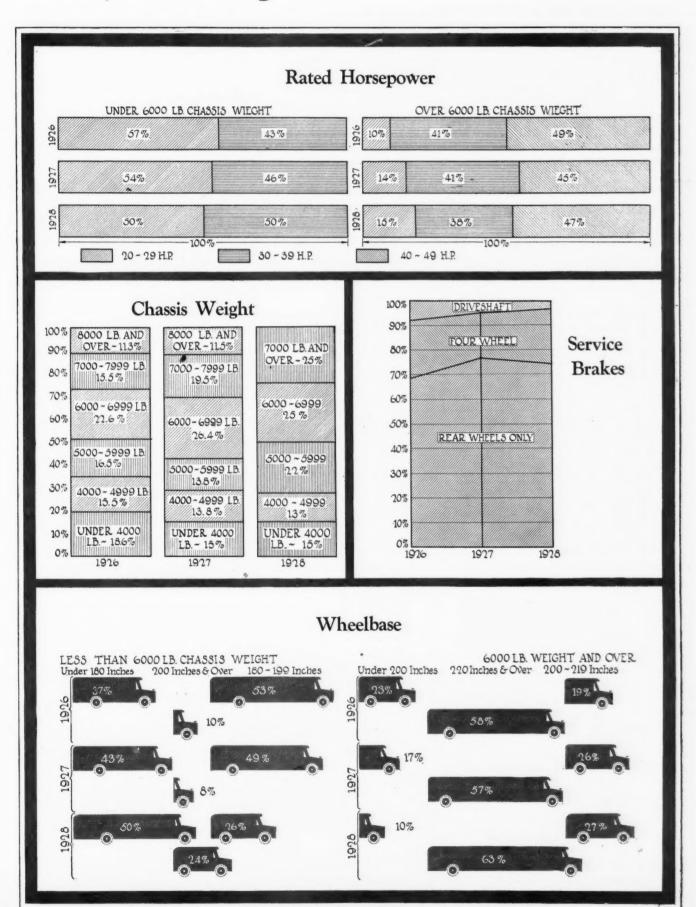
Statistics and Sales Managers

WHILE we're on this matter of indefiniteness, it is interesting to learn from the Automotive Industrial Red Book that changes in its factory list between May, 1927, and November, 1927, show among passenger car company executives two changes of presidents, 22 changes of vicepresidents, 38 changes of purchasing agents, 32 changes of service managers, 28 changes of engineers, 17 changes of general managers and-40 changes of sales managers. In the truck factories also the number of changes in sales managers is higher than for any other single position. Here the list runs like this: Presidents 8; vice-presidents 31; purchasing agents 48; service managers 44; engineers 42; general managers 23, and sales managers 56. The figures do not include executives represented by addition of new concerns or concerns going out of . And with that bit business . of statistical information we close.-N.G.S.

Current Trends in



Motor Bus Design



American Gasoline

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- ABBREVIATIONS:

 O—Others furnished

 —At extra cost

 Description

 Gas Electric

 Prices on application

 S—Generator only

 1-1927 Specifications

 T—Manufacturers did not

 furnish information

 Lalso Fabric Joints

 —Main Bearings

 ABos—American Bosch

 A-L—Auto-Lite

 A-P—Air Pressure

 b—Lower Rod Bearings

- B—Battery (Ignition)
 B—Balloons (Tires)
 Bal—Ball and Ball
 BM—Battery and Magneto
 B&B—Borg & Beck
 BG—Bevel Gear
 B-L—Brown Lipe
 Blo—Blood
 B-PS—Bevel Pinion and Sector
 c—Camshaft Bearings
 C&L—Cam and Lever
 Ce—Centrifugal
 Cla—Clark
 Cle—Cleveland
 Col—Columbia

- Cont—Continental
 Cot—Cotta
 Cov—Covert
 d—Dual
 d—(Oiling System)—Wrist Pins
 Day—Dayton
 D-C—Disc Cast Steel
 DD—Dead
 DS—Dual Solid
 DeJ—DeJon
 Del—Delon
 Del—Delon
 Det—Detroit
 Dir—Direct
 D-P—Disk Pressed Steel
 D-P—(Clutch)—Double Plate
- DR—Double Reduction
 Dtl—Detlaff

- Dtl—Detlaff
 e—Gear Case
 E—Free End
 Eat—Eaton
 E-Ds—External Pour Wheel
 Eis—Essemann
 Eng—Engine
 E-P—Electric Pump
 E-R—External Rear Wheels
 Exi—Exide
 24 F—Semi-Floating
 34 F—34 Floating
 F—In Head and Side
- FA—Drive taken
 through Front Axle
 FF—Full Floating
 Ful—Fuller
 Fw—4-Wheel
 G—Gravity
 GE—General Electric
 Gem—Gemmer
 Gou—Gould
 Han—Handy
 HaS—Hall Scott
 Heli—Helical
 Herc—Hercules
 Hob—Hobson
 Hoe—Hoopes

MISSIO

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Hyd—Hydraulic l—In Head lo—In Head: overhead camshaft

Bus Chassis

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Type

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MISSION	N				R	EAR	AXLE				BRAN	ES			SPR	INGS				RUN	NING	GEAL	R			,
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I-Ds—Internal Driveshaft
I-Fw—Internal Four Wheel
IG—Internal Gear
Ind—Indestructible
I-Rw—Internal Rear wheel
Jac Jacox
L-L Head
L-N-Lecce Neville
Lyc—Lycoming
M-Manneto (Ignition)
M-Metal (Shackles)
MDD—Multiple Dry Disk
M&E—Merchant & Evans
Mec—Mechanical
Mich—Michigan

M.M.—Mechanics Machine
Mot—Motor Wheel
M-P—Mechanical Pump
N-E—North East
N-P—No Provision
Opt—Optional
P—Pneumatic (Tires)
PD—Dual pneumatics
P—Pressure (Fuel Feed)
Pet—Peters
Pic—Pick
Pie—Pick
Pow—Power Operated
Pre—Prestolite
R—Rubber

RA—Wheels Swung from Radius
Arms
RBos—Robert Bosch
RwDs—Rear wheels & drive shaft
S—Solid
SB—Spiral Bevel
S-C—Spoked Cast Steel
S-ch—Schebler
S-U—Separate Unit
Sh—Sheldon
Shu—Shuler
S-M—Spoked Malleable Iron
Smi—Smith

S&N—Screw and Nut
Sne—Snead
SP—Single Plate
S-P—Spoked Pressed Steel
Spi—Spicer
Sol—Spitdorf
Stew—Stewart
Str—Stromberg
Su—Suction
S-W—Spoked Wood
I—T Head
IB—Straight Bevel
Im—Timken
Uni—Universal Machine
Un FA—Unit with Front Axle

U-P—Universal Products
V—Vac-rum
Vac—Vacuum
Var—Various
Ves—Vesta
War—Warner Corp
Wauk—Waukesha
Wes—Westinghouse
Wil—Willard
Wisc—Wisconsin
We—Worm
W&R—Worm and Roller
W&S—Worm and Sector
W&W—Worm & Wheel
Yell—Yellow Sleeve
Zen—Zenith



American Gasoline

				GENER	AL				E	NGIN	E				E	LECT	TRICAL	. SYST	EM	GOVE	RNOR		TRANS
MAKE AND			9 99		(Lbs.)		es, nd Sizes		ders, (Ins.)	rer	ut		Fu Syst		Ignit Syste		Starter	Bat	ttery		ped	Cl	utch
MODEL	Passenger Rating	Price-Chassis	Standard Wheelbase (Ins.)	Tread, Front and Rear (Ins.)	Chassis Weight (Front (Ins.)	Rear (Ins.)	Make and Model	Number of Cylinders, Bore and Stroke (Ins.)	Rated Horse Power	Valve Arrangement	Oiling System Pressure to	Carbureter Make	Fuel Feed	Make	Current Source	Generator and St Make	Make	Voltage and Amp. Hour Capacity	Type	Maximum Governed Speed (M.P.H.)	Make	Type
Uppercu Coach	28-35 25-25-35 14-21 25-29 29 38 67 67 29 29 33-66	\$ 6395 5600 7500 4250 5350	240 221 224 227° 180 198° 239 239 200 200 200 225 230	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	7400 8000 6600 6495 8000 8500 7313 7515 7515 6000 Var	P-34x7 B-38x9 B34x7.50 P-34x7 P38x8.25 P40x9 00 S-34x6 S-34x6 P-40x9 S-34x6	S*-36x10 P-38x7d P-34x7d B-38x9 B34x7.50d P-34x7d P38x8.25 P40x9.00 S*34x6d S*-34x6d P-36x6d S-34x6d S-34x6d	2-Wauk6X Wauk .6A Cont14H Wauk .6HE Own .1A1 Own .GRE Own .GRE Wauk .6AB Wauk .6AB Own .2 Own .YZ	6-4½x534 6-4½x534 6-4½x534 6-4¾x534 6-4¾x534 3-4-4¼x534 6-4½x534 6-4½x534 7-4 6-4¼x512 6-4¼x512 6-4¼x512 6-4¼x512	48x6 38.4 45.9 28.9 28.9 48.6 43.3 43.3 43.3	L L L Sl Sl Sl	abcabcdabcdabcdabcdabc	Zen Zen Zen Zen Zen Zen Zen Zen Zen Zen Zen Zen Zen Zen Zen Zen	V. V. P. V.	RBos Opt N-E N-E N-E	M	L-N N-E A-L° L-N L-N RBos RBos N-E	Wes Pre Wil Opt Exi Exi Ves Ves Ves Ves	. 12-160 6-125 12-174 12-112 12-132 12-132 12- 12- 12-100 12-100 12-100 12-100	Ce Ce Ce Ce Ce None.	N P N-P Opt 45 40 32 35 35 50	B&B. Ful B-L Own. Own. Long. Long. Long. Long. Long. Long. Long. Long.	MDD MDD DP SP. SP. SP. SP. SP. SP. SP.
ABBREVIATIONS: Others furnished -At extra cost -As	not fu	urnish		B—Balloons Bal—Ball ar Bal—Ball ar Bal—Ball ar Bal—Ball ar Bal—Bal Bal—Blood B-Blood B-PS—Beve Camsha C&L—Cam Ce—Centrif CGP—Colum Cla—Clark Cle—Clevel Col—Colum Cont—Cont	nd Ballry and & Bec Gear Lipe el Pinioft Bear and Lugal mbus and bia	Magneto k on and Sec rings ever Gear & Pu		Day—Day D-C—Dis DD—Dea DS—Dua DeJ—Del Del—Del Dir—Dir D-P—Dis DP—(Clu	y System)— y ton c Cast Steel d I Solid Jon co roit set k Pressed S ttch)—Doub tale	Wrist teel ble Pla		overt	Eat— E-Dı E-Fv Eis— Eng- E-P- E-Rı Exi— ½ F F—I FA—	v—Exerned Exerned Exer	ternal L ternal I mann ine tric Pur ternal l e nii-Floating ad and s e taken le	np Rear ing side	Wheel Wheels	nt	GE-Gem-Gou-HaS-Heli-Herc-Hob-Hoo-Hyd-I-In-Io-Ii-I-Fw-Ii-Fw-Ii-Fw-Ii-Fw-Ii-Fw-Ii-Fw-Ii-Fw-Ii-Ii-Ii-Ii-Ii-Ii-Ii-Ii-Ii-Ii-Ii-Ii-Ii-	4-Wheel General General Gould -Hall Se-Helical -Hobson -Hobson -Hospes -Hydran Head n Head: camsha -Internal	Electricer cott les dulic overheaft al Drive al Four	lan—H	

Motor Fatalities in Cities of More Than 100,000 Population

(Figures Supplied by City Health Departments) (Compiled by National Automobile Chamber of Commerce)

Year 1927	Year 1926		Year 1927	Year 1926		Year 1927	Year 1926
New York1090	1069	Jersey City	62	41	Hartford	47(26*)	44(20*)
Chicago, Ill 789	701	Denver, Colo.	57	48	San Antonio	48	37
Philadelphia . —	328	Louisville	58(5*)	45(4*)	Salt Lake C'y	24	27
Detroit, Mich. 394	389	Oakland, Cal.		68	Youngstown .	25	41
Cleveland, O. 246	258	Rochester	60	67	Bridgeport	25	29
Baltimore 168	177	Dallas, Tex.	47	55	Dayton, O	54	69
Boston, Mass. 114	131	Toledo, O	109	75	Scranton, Pa.		23
St. Louis, Mo. 160	181	Birmingham .	51	53	Des Moines	27	28
San Francisco 155	129	Providence	52 (16*)	47(17*)	Springfield	27(13*)	38(3*)
Pittsburgh 209 (49*)	164 (41*)	Columbus, O.	71	69	Nashville	46	40
Los Angeles . 317	239	St. Paul	54	45	Paterson, N.J.		16
Buffalo, N. Y. 130	132	Houston, Tex.	46	35	Kansas City.	21	4
Milwaukee 123	93	Memphis	72(32*)	60(33*)	New Bedford	13(3*)	8
Washington . 79	74	Akron, O		58	Fall River	12(3*)	19(7*)
Minneapolis . 62	69	Atlanta, Ga	70(18*)	72(22*)	Camden, N. J.	19	22
Cincinnati 133	124	Omaha, Neb.	34	25	Spokane, Wash	. 21	27
Newark, N. J. 126(10*)	113(14*)	Richmond, Va.		38	Albany, N. Y.	35	41
New Orleans. 69	62	Worcester	31	19	Lowell, Mass.		22
Kansas C'y, Mo. 80	83	Fort Worth	29	32	Cambridge	28	19
Seattle, Wash. 69	67	New Haven .	50 (31*)	44(21*)	Trenton, N. J.	45(22*)	34(19*)
Indianapolis . 81	81	Syracuse	42	44	Yonkers, N.Y.	_	-
Portland, Ore. 61(15*)	56(12*)	Norfolk, Va.		_	Reading, Pa.	27(14*)	17(6*)
		Grand Rapids	35(13*)	33(21*)	Wilmington .	33(7*)	26
-							
*Accidents included in	4-4-1 1-4		Aug Hamites		Totals	3448	6057

*Accidents included in total but occurred outside city limits.

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Bus Chassis—Continued



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Make	Location	No. Fwd. Speeds or Elec. Motors	Reduction	Universal Joints, Number and Make	Make and Model	Final Drive	Type	Il Ratio from rive Wheels	Type and Lo-	Operation	Action	Braking Area (Sq. Ins.)	Type and Lo-	Braking Area (Sq. Ins.)	Length and Width (Ins.)	Length and Width (Ins.)	Shackles Type.	Front Axle Make	Make	Туре	Outside Dia. of Minimum Turn- ing Circle (Ft.)	of Ri	Make	No. (Dual = 1) Type and Material	MODEL
Ful. Un Ful. Eng B-L. Eng Dwn Eng Dwn Eng Dwn Eng B-L. Eng B-L. SeU B-L. SeU B-L. SeU B-L. SeU	ng U U	4 5 4 4 4 4 4 4 4 4 5 1 1	5.25 4 5.20 4 5.35 3 6.05 4 1.12 3 6.35 4 6.35 4 4.98 2 1.98 2 1.98 2 1.98 2 1.98 2	I-Own I-Uni I-Spi	Tim 652 Tim 652 Own Own	ec. FA. 5K DR Wo 1C SB SB. 0B DR W Wo Z Wo YZ Wo YZ Wo YZ Wo YZ Wo YZ Wo YZ Wo	RA FF. 1/2F 1/2F 1/2F 1/2F 1/2F 1/2F 1/2F 1/2F	5.4 4.56 4.38° 4.67° 4.00 4.8 7.00 7.00 5.20 4.27	I-Rw I-Rw E-Fw. I-FW. I-Rw I-Rw I-Rw I-Rw I-Rw I-Rw I-Rw I-Rw I-Rw I-Rw	A-P Mec A-P Vac A-P A-P Mec Mec A-P	Dir Dir Pow Dir Pow Dir Pow Dir Dir Dir Dir Dir Dir Dir Dir	†† †† 311 325 594 594 594 304 304	E-Ds. E-Ds. E-Ds. I-Ds. E-Ds. E-Ds. I-Rw. I-Rw. I-Rw. I-Rw. I-Rw. I-Rw. I-Rw. I-Rw. I-Rw. I-Rw. I-Rw.	1404 1404 1404 111 325 11 11 1297	Heli 44-3 8-3 41½-2½ 41½-2½ 49-3 49-3 48-3½ 48-3½ 48-3½ 46-3½ 48-3½	64-4	R&E M M M M M M M	Own Shu Own Own Tim Tim Own Own Own Own Own	Own Ross Ross Ross Ross Ross Ross	C&L C&L	34 60 79 57 66 	24 20 20 20 20 20 22 22 24 22 24 22 24	Day Budd Budd Budd Budd Budd Budd Budd Budd Dudd Day Budd Budd	4 D-P 4 D-P 4 D-P 4 D-P 4 D-P 5 D-P D-P D-P 1 S-C	Twin Ceach. Uppercu Coach Victor. Ward LaFrance. White. White. White. W M C W M C Yellow (Double) Yellow (Single) Yellow ** Yellow ** Yellow Coach.

Ind—Indestructible
I-Rw—Internal Rear wheel
Jac—Jacox
L—L Head
LN—Leece Neville
Lyc—Lycoming
M—Magneto (Ignition)
M—Metal (Shackles)
MDD—Multiple Dry Disk
M&E—Merchant & Evans
Mec—Mechanical
Mich—Michigan
M.M.—Mechanics Machine
Met—Motor Wheel
M-P—Mechanical Pump

N-E—North East
N-P—No Provision
Opt—Optional
P—Pneumatic (Tires)
PD—Dual pneumatics
P—Pressure (Fuel Feed)
Pet—Peters
Pie—Pieck
Pie—Pieck
Pie—Piece
Pow—Power Operated
Pre—Prestolite
R—Rubber
RA—Wheels Swung from Radius
Arms
RBos—Robert Bosch

RwDs—Rear wheels & drive shaft
S—Solid
SB—Spiral Bevel
S-C—Spoked Cast Steel
S-C—Spoked Cast Steel
S-C—Spoked Cast Steel
S-C—Spoked Cast Steel
S-Sheldon
Shu—Shuler
S-Shuler
S-Shuler
S-Sleve Valve
S-M—Spoked Malleable Iron
Smi—Smith
S-KN—Serew and Nut
Sne—Snead
SP—Single Plate

S-P—Spoked Pressed Steel
Spi—Spicer
Spi—Spitdorf
Siew—Stewart
Str—Stromberg
Su—Suction
S-W—Spoked Wood
T—T Head
TB—Straight Bevel
Tim—Timken
Uni—Universal Machine
Un FA—Unit with Front Axle
U-P—Universal Products
V—Vacuum
Vac—Vacuum

Var—Various
Ves—Vesta
War—Warner Corp.
Wauk—Waukesha
Wes—Westinghouse
Wil—Willard
Wise—Wisconsin
Wo—Worm
W&R—Worm and Roller
W&S—Worm and Sector
W&W—Worm & Wheel
Yell—Yellow Sleeve
Zen—Zenith

Automobile Fatalities Compared with Registrations

Year	Total No. of Auto Deaths	Total Auto Registrations	No. of Deaths per 100,000 Autos
1917	9,097	4,971,000	183
1918	9,457	6,106,000	155
1919	9,825	7,597,000	129
1920	11,074	9,206,000	120
1921		10,506,000	118
1922		12,300,000	111
1923	16,489	15,313,000	108
1924	17,838	17,605,000	101
1925	19,614	19,858,000	99
1926	23,000*	22,047,000	96

* Estimate.

Ratio of Automobile Deaths to Total Accidental Deaths

			Rate per	100,000 ation	Ratio of
Year	Total Accidental Deaths	Deaths Due to Autos	Total Accidental Deaths	Deaths Due to Autos	Auto to Total Deaths
1917	89,433	9,097	88.2	9.0	10.2
1918	83,959	9,457	82.3	9.3	11.3
1919	74,546	9,825	71.9	9.4	13.0
1920	76,024	11,074	71.4	10.4	14.6
1921	74,083	12,370	68.7	11.5	16.7
1922	76,510	13,676	70.0	12.5	17.9
1923	84,547	16,489	76.4	14.9	19.5
1924	86,887	17,838	76.4	15.7	20.5
1925	90,341	19,614	78.2	17.4	21.7
1926	89,140*	23,000	* 76.1	19.6	25.8

* Estimates.

Distribution of Some Non-Fatal Automobile Accidents by Other Agencies Involved—1926

Other Vehicles 5.0% Fixed Objects 3.4% Railroad Trains 0.8% Street Cars 3.5% 100.0% Non-Collision 2.3%

American Bus Bodies

		Exterior Finish	ı	医内侧线线 医自己自己自己自己自己自己自己自己自己自己自己的自己的结线线线线线线线线线线线线 化化丁烷
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NG		Coat Hooks		ZZZZZZZZZZZZZZZZZZZZZZZZZZZZ
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		como		
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INTERIOR FINISHINGS	st	Upholstery	5	Mot.
Z	Seats	Make	AC	Own. I. Own. II. Own. III. Own. II. Own. II. Own. II. Own. II. Own. II. Own. II. Own. III. Own. II. Own. II. Own. II. Own. II. Own. II. Own. II. Own. III. OWN.
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		AND AND MODEL		Bender Body. Bender Body. Bender Body Bender Body Bender Body Berewn Body (Cambridge Bo Cambridge Bo Cambridge Bo Carolina Body. Fifz. John. Pa. Fiz. John. Pa. Fiz. John. Pa. Kiz. John. Pa. Kiz. Miman. Kahlman. Kahlman. Kahlman. Kahlman. Kahlman. Kahlman. Kahlman. Kahlman. Paterson Veh. Paterson Ve
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American Bus Bodies-Continued

		Exterior Finish		Per Pry Pry Pry Pry Pry Pry Pry Pry Pry Pr	
		Seat Hand Holds		ZZKZKZZZKKZK:::::XKKZKZZZKZKZZZ	
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2		Coat Hooks		>ZZZZ : ZZZZXZZX : : : : : : ZZZZZZZZZZZ	
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VENTILATORS		Others		NAME NANANAMANANA HANANAMA HANANAMA HANANAMA HANANAMA HANANAMANAMA HANANAMA	Spec—Specia Su—Specia Su—Superior Su—Superior Su—Superior Tern—Through TW—Through TW—Through TW—Various Var—Various Val—Val—Various Val—Various Val—Various Val—Various Val—Various Val—Val—Various Val—Various Val—Various Val—Various Val—Various Val—Val—Val—Val—Val—Val—Val—Val—Val—Val—
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NGS	Materia	Ceiling	S		P&V—Paint and Varnish. QL—Quarter Lighta. R—Right. R—Right. RCF—Rear Center RCF—Rear S—Seal Center S—Side. S—Seal Des. SDC—Single Desic City. Sed—Sedan.
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		Step Height Loaded (Ins.) Double (No.) Single (No.)	IED	6 6 6 6 6 7	GW—Galloway Bright, H-Rood, H-Rood, H-Grade, H-G
		Double (No.) Single (No.) Other Capacity	IED	7 6 6 6 6 7	GW-Galloway Bright, H-Rodi. H-R-Bale-Kilburn. H-K-Bale-Kilburn. H-W-Bale-Kilburn. H-W-Beywood-Wakefield. Im.As-Initation Leather. III—Illinois. Karp—Karpoo. Karp—Karpoo. Karp—Karpoo. Karp—Karpoo. Karp—Karpoo. Karp—Karpoo. Karp—Karpoo. Karp—Karpoo. Karp—Mahogany. Mahog—Mahogany.
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		Body Weight (Lbs.) Floor Height Leaded (Ins.) Stop Height Loaded (Ins.) Double (No.) Single (No.)	FURNISHED	94 107% 33780 223% 16 113 N. 55 116 117 N. 55 117 N. 5	
GENERAL DIMENSIONS		Height Including Chassis (Ins.) Body Weight (Lbs.) Floor Height Leaded (Ins.) Loaded (Ins.) Double (No.) Single (No.)	IED	92 949.2 3780 229.2 15 11 N 5 5 16 16 10 10 10 10 10 10 10 10 10 10 10 10 10	
GENERAL DIMENSIONS		Width (Ins.) Height Including Chassis (Ins.) Body Weight (Lbs.) Floor Height Leaded (Ins.) Step Height Loaded (Ins.) Double (No.) Single (No.)	FURNISHED	Al. 274 92 942/2 3780 222/2 15 11 N. 5 5 5 5 5 5 5 5 5	
		Length (Ins.) Width (Ins.) Height Including Chassis (Ins.) Hoor Height Leaded (Ins.) Step Height Loaded (Ins.) Step Height Loaded (Ins.)	FURNISHED	Al. 274 92 942/2 3780 222/2 15 11 N. 5 5 5 5 5 5 5 5 5	
GENERAL DIMENSIONS		Panel Length (Ins.) Width (Ins.) Height Including Chassis (Ins.) Body Weight (Lbs.) Floor Height Leaded (Ins.) Losded (Ins.) Double (No.) Single (No.)	FURNISHED	Wood A. 274 92 94½ 3780 22½ 15 11 N. 5 Wood A. 276½ 84 107¾ 3000 22½ 15 12 N. 5 Wood A. 276 86 106 300 27½ 16 10 1 5 5 Wood A. 226 77 99 2725 17 10 4 4 Wood A. 226 77 99 2725 17 11 11 1 20 17 99 2725 16 10 1 20 11 10 20 10 4	plice.
GENERAL DIMENSIONS		Frame Length (Ins.) Width (Ins.) Height Including Chassis (Ins.) Body Weight (Les.) Floor Height Leaded (Ins.) Step Height Leaded (Ins.) South Height Leaded (Ins.) Single (No.)	FURNISHED	Wood A. 274 92 94½ 3780 22½ 15 11 N. 5 Wood A. 276½ 84 107¾ 3000 22½ 15 12 N. 5 Wood A. 276 86 106 300 27½ 16 10 1 5 5 Wood A. 226 77 99 2725 17 10 4 4 Wood A. 226 77 99 2725 17 11 11 1 20 17 99 2725 16 10 1 20 11 10 20 10 4	Carv—Canvad. Car—Cazpet. Ge—Cleveland. Ge—Cleveland. Ge—Cornell board. Ca—Common Sense. Ca—Cornell board. Ca—Cursin Supply. DDC—Double Deck City. Effer—Enamel. Ers—Enamel. Ers—Englad & Mersick. Fishd—Fisher board. Fired—Firest. Gar—Garland.
GENERAL DIMENSIONS		Type Seating Capacity Frame Panel Length (Ina.) Width (Ina.) Height Including Chassis (Ina.) Floor Height (Lbs.) Floor Height (Lbs.) Leaded (Ins.) Loaded (Ins.) Double (No.) Single (No.)	FURNISHED	Wood A. 274 92 94½ 3780 22½ 15 11 N. 5 Wood A. 276½ 84 107¾ 3000 22½ 15 12 N. 5 Wood A. 276 86 106 300 27½ 16 10 1 5 5 Wood A. 226 77 99 2725 17 10 4 4 Wood A. 226 77 99 2725 17 11 11 1 20 17 99 2725 16 10 1 20 11 10 20 10 4	Carv—Canvas. Carv—Carpet. Car—Carpet. Car—Cleveland. Car—Cleveland. Car—Cleveland. Car—Cornell board. Ear—Edwards. Far—Front. Far—Front. Far—Front. Gar—Garland.
GENERAL DIMENSIONS		Type Seating Capacity Frame Panel Length (Ina.) Width (Ina.) Height Including Chassis (Ina.) Floor Height (Lbs.) Floor Height (Lbs.) Leaded (Ins.) Loaded (Ins.) Double (No.) Single (No.)	FURNISHED	Wood A. 274 92 94½ 3780 22½ 15 11 N. 5 Wood A. 276½ 84 107¾ 3000 22½ 15 12 N. 5 Wood A. 276 86 106 300 27½ 16 10 1 5 5 Wood A. 226 77 99 2725 17 10 4 4 Wood A. 226 77 99 2725 17 11 11 1 20 17 99 2725 16 10 1 20 11 10 20 10 4	Carv—Canvas. Carv—Carpet. Car—Carpet. Car—Cleveland. Car—Cleveland. Car—Cleveland. Car—Cornell board. Ear—Edwards. Far—Front. Far—Front. Far—Front. Gar—Garland.
GENERAL DIMENSIONS		Type Seating Capacity Frame Panel Length (Ina.) Width (Ina.) Height Including Chassis (Ina.) Floor Height (Lbs.) Floor Height (Lbs.) Leaded (Ins.) Loaded (Ins.) Double (No.) Single (No.)	FURNISHED	Wood A. 274 92 94½ 3780 22½ 15 11 N. 5 Wood A. 276½ 84 107¾ 3000 22½ 15 12 N. 5 Wood A. 276 86 106 300 27½ 16 10 1 5 5 Wood A. 226 77 99 2725 17 10 4 4 Wood A. 226 77 99 2725 17 11 11 1 20 17 99 2725 16 10 1 20 11 10 20 10 4	Carv—Canvas. Carv—Carpet. Car—Carpet. Car—Cleveland. Car—Cleveland. Car—Cleveland. Car—Cornell board. Eav—Edwards. Eav—Edwards. Eav—Edwards. Eav—Enamel. Eav—Enamel. Eav—Enamel. Falsd—Fibre board. Fibd—Fibre board. Fibd—Fibre board. Falsd—Fibre board.
GENERAL DIMENSIONS		Type Seating Capacity Frame Panel Length (Ina.) Width (Ina.) Height Including Chassis (Ina.) Floor Height (Lbs.) Floor Height (Lbs.) Leaded (Ins.) Loaded (Ins.) Double (No.) Single (No.)	FURNISHED	Wood A. 274 92 94½ 3780 22½ 15 11 N. 5 Wood A. 276½ 84 107¾ 3000 22½ 15 12 N. 5 Wood A. 276 86 106 300 27½ 16 10 1 5 5 Wood A. 226 77 99 2725 17 10 4 4 Wood A. 226 77 99 2725 17 11 11 1 20 17 99 2725 16 10 1 20 11 10 20 10 4	Carr—Canva. Gr—Carpia. Gr—Carpia. Gr—Carpia. Gr—Cornel Board. Gr—Common Board. Car-Common Board. Car-Common Board. Car-Common Board. Car-Common Board. Car-Common Board. Exp.—Edwards. Exp.—Edwards. Exp.—Edwards. Exp.—Edwards. Exp.—Edwards. Exp.—Edwards. Falw.—English & Mersick. Falw.—English & Mersick. Falw.—Falriboid. Frey Foot. Gar-Carland.
GENERAL DIMENSIONS		Type Sesting Capacity Frame Panel Width (Ins.) Width (Ins.) Height Including Chassis (Ins.) Body Weight (Lbs.) Step Height Leaded (Ins.) Step Height Leaded (Ins.)	FURNISHED	Fageol. 230 PC. 26 Wood Al. 274, 92 9445, 3780 2225, 15 11 N. 4 5 and of the control of the cont	Carr—Canva. Gr—Cleveland. Gr—Cleveland. Gr—Cleveland. Gr—Cornel board. Gr—Cornel board. CS—Cornel board. CS—Cornel board. CS—Cornel board. Ex—Bannel. Ex—Bannel. Ex—Bannel. Ex—Bannel. Ex—Bannel. Ex—Bannel. Ex—Fahrliod. Fibd—Fahrliod. Fibd—Fahrliod. Fibd—Fahrliod. Fibd—Fahrliod. Fibd—Fahrliod. Fibd—Fahrliod.
GENERAL DIMENSIONS		Type Seating Capacity Frame Panel Length (Ina.) Width (Ina.) Height Including Chassis (Ina.) Floor Height (Lbs.) Floor Height (Lbs.) Leaded (Ins.) Loaded (Ins.) Double (No.) Single (No.)	FURNISHED	Fageol. 230 PC. 26 Wood Al. 274, 92 9445, 3780 2225, 15 11 N. 4 5 and of the control of the cont	Carr—Canva. Gr—Carpa. Gr—Clevaland. G-Sa—Clement Smith. G-Somon Board. CS—Cornel board. CS—Cornel board. CS—Cornel board. CS—Cornel board. CS—Cornel board. Ex—Edwards.
GENERAL DIMENSIONS		Type Sesting Capacity Frame Panel Width (Ina.) Width (Ina.) Width (Ina.) Height Including Chassis (Ina.) Height (Lhs.) Esch Height (Lhs.) Floor Height (Lhs.) Esched (Ins.) Double (No.) Single (No.)	FURNISHED	Fageol. 230 PC. 26 Wood Al. 274, 92 9445, 3780 2225, 15 11 N. 4 5 and of the control of the cont	Carr—Canva. Gr—Carpa. Gr—Clevaland. G-Sa—Clement Smith. G-Somon Board. CS—Cornel board. CS—Cornel board. CS—Cornel board. CS—Cornel board. CS—Cornel board. Ex—Edwards.
GENERAL DIMENSIONS		Type Sesting Capacity Frame Panel Width (Ina.) Width (Ina.) Width (Ina.) Height Including Chassis (Ina.) Height (Lhs.) Esch Height (Lhs.) Floor Height (Lhs.) Esched (Ins.) Double (No.) Single (No.)	FURNISHED	Prageol 200 PC 26 Wood Al 274, 92 9445, 3780 2235 15 11 N. 4 5	Carr—Canva. Gr—Carpa. Gr—Clevaland. G-Sa—Clement Smith. G-Somon Board. CS—Cornel board. CS—Cornel board. CS—Cornel board. CS—Cornel board. CS—Cornel board. Ex—Edwards.
GENERAL DIMENSIONS		Type Sesting Capacity Frame Panel Width (Ina.) Width (Ina.) Width (Ina.) Height Including Chassis (Ina.) Height (Lhs.) Esch Height (Lhs.) Floor Height (Lhs.) Esched (Ins.) Double (No.) Single (No.)	FURNISHED	Prageol 200 PC 26 Wood Al 274, 92 9445, 3780 2235 15 11 N. 4 5	Carr—Canva. Gr—Carpa. Gr—Clevaland. G-Sa—Clement Smith. G-Somon Board. CS—Cornel board. CS—Cornel board. CS—Cornel board. CS—Cornel board. CS—Cornel board. Ex—Edwards.
GENERAL DIMENSIONS		Type Sesting Capacity Frame Panel Width (Ina.) Width (Ina.) Weight Including Chassis (Ina.) Height Including Chassis (Ina.) Body Weight (Lbs.) Floor Height Leaded (Ins.) Floor Height Loaded (Ins.) Single (No.)	FURNISHED	Prageol 200 PC 26 Wood Al 274, 92 9445, 3780 2235 15 11 N. 4 5	Carr—Canva. Gr—Carpia. Gr—Carpia. Gr—Carpia. Gr—Cornel Board. Gr—Common Board. Car-Common Board. Car-Common Board. Car-Common Board. Car-Common Board. Car-Common Board. Exp.—Edwards. Exp.—Edwards. Exp.—Edwards. Exp.—Edwards. Exp.—Edwards. Exp.—Edwards. Falw.—English & Mersick. Falw.—English & Mersick. Falw.—Falriboid. Frey Foot. Gar-Carland.
GENERAL DIMENSIONS		Type Soating Capacity Frame Panel Width (Ina.) Width (Ina.) Height Including Chassis (Ina.) Height (Ina.) Body Weight (Lbs.) Body Weight (Lbs.) Stop Height Leaded (Ins.) Stop Height Loaded (Ins.)	FURNISHED	Pageol 230 PC 26 Wood Al 274 92 9415 3780 2215 16 11 N. 5 Pageol 230 PC 29 Wood St. 2765 94 93 256 PC 25 26 Wood St. 2765 94 93 256 PC 25 26 Wood St. 2765 94 93 256 PC 25 26 Wood St. 2765 94 93 256 PC 25 26 Wood St. 2765 94 93 256 PC 25 26 Wood St. 2765 94 276 PC 27	Arions: Care—Canva. Care—Carva. Care—Carva. Care—Carpa. Care—Carpa. Care—Carpa. Care—Carpa. Care—Carpa. Care—Carpa. Care—Carpa. Care—Cornel bard. Care—Edwards Burd. Edwards. Ed



British Motor Bus Chassis



					GE	NERAL				EN	GINE			TRAN	ISMISS	ION	RE	AR AX	LE	BRAI	KES	DIM	MENS	IONS
		We	ight				Type Size		ns.)		Fu Syst				Gen	rset			Ratio				Ov	erall
MAKE	Seating Capacity	Chassis Only (Lbs.)	Body Maximum (Lbs.)	Wheelbase (Ins.)	Tread Rear Wheels (Ins.)	Frent (Ins.)	Rear (Ins.)	Number of Wheels	Number of Cylinders Bore and Stroke (Ins.)	Valve Arrangement	Carburetor Make	Fuel Feed	Ignition Type	Clutch Type	Location	Number of Forward Speeds	Туре	Final Drive	Total Reduction R. High Gear	Location	Operation	Floor Height (Ins.)	Length (Ft. and Ins.)	Width
D. C	58 35 54 38 88 14 420 25 52 26 26 32 28 32 32 32 32 32 32 32 32 32 32 32 32 32	7720 8070 6160 6160 4890 4690 5770 4390 4480 5573 66270 3390 6415 5571 672 672 672 672 672 672 672 672 672 672	3500 3500 3500 4800 3500 3500 3500 3500 3500 3500 3500 3000	1688 1980 1982 1983 1986 1986 1986 1986 1986 1986 1986 1986	744 666 771 777 776 63 777 777 776 63 777 777 777 7	S-36x43/4	S-40x5½d S-40x6½d P-38x7d P-38x7d P-38x7d P-38x8d P-36x6d P-38x7d P-36x6d P-38x7d P-36x6d P-38x7d P-36x6d P-36	444464444444444444444444444444444444444	4-4. 72x5. 90 4-4. 25x5. 56 4-4. 25x5. 56 6-3. 20x4. 56 6-3. 20x4. 56 6-3. 81x5. 11 4-3. 87x5. 90 4-4. 33x4. 75 4-4. 33x4. 75 4-4. 33x4. 75 4-4. 33x4. 75 4-4. 50x5. 75 4-3. 75x5. 11 4-4. 50x5. 75 4-3. 34x4. 56 4-4. 33x5. 51 4-4. 30x5. 51 6-4. 00x5. 55 6-4. 35x5. 50 6-4. 00x5. 55 6-4. 35x5. 50	L	Zen. Zen. Zen. Sol. Strom. Sol. Sol. Sol. Sol. Sol. Sol. Sol. Sol	G. V.	M. M	Co. SP. SP. SP. SP. SP. SP. SP. SP. SP. SP	Sep. Sep. Sep. Sep. Sep. Sep. Sep. Sep.	444344444444444444444444444444444444444	FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF	Wo.	9.2 9.3 8.2 9.3 8.2 9.3 8.2 9.3 8.2 9.3 8.2 9.3 8.2 9.3 8.2 9.3 9.2 9.2 9.2 9.2 9.2 9.2 9.2 9.2 9.2 9.2	Rw† Rw† Fw T & Fw T & Rw T & Fw Rw Rw Fw	Mech Mech Mech Mech Mech Mech Mech Mech	35 26 21 22 20 20 20 20 20 20 20 20 20 20 20 20	23-0 24-10 24-14 26-1 26-1 27-0 29-0 29-0 20-2 20-2 20-2 26-0 26-0 26-0 26-0 25-5 25-0 18-16 25-0 25-5 25-0 18-16 25-0 25-5 25-0 25-5 25-0 25-5 25-0 25-5 25-0 25-5 25-0 25-5 25-0 25-5 25-0 25-5 25-0 25-1 25-0 25-0 25-0 25-0 25-0 25-0 25-0 25-0	7-2-2-6-8-6-0-0-0-0-7-0

B—Battery.
Cla—Claudel.
Co—Cone.
d—Dual.
DR—Double Reduction.
Eng—Unit with Engine.
FF—Full Floating.
\$4F1—\$4 Floating.
\$4F1—\$4 Floating.
Fw—Four Wheels.

G—Gravity.
GE—Gas Electric,
Hyd—Hydraulic.
I—Valve in Head.
IG—Internal Gear.
L—"L" Head.
M—Magneto.
MD—Multiple Disk.
Mech—Mechanical.
Opt—Optional.

P—Pneumatic.
Pr—Pressure.
Rw—Rear Wheels Only.
S—Solid.
Sep—Separate Unit.
SI—Sleeve Valve Type.
Smi—Smiths
Sol—Solex.
SP—Single Plate,
Sp—Spiral Bevel.

Strom—Stromberg.
T&Fw—Transmission and Four Wheels.
T&Rw—Transmission and Rear Wheels.
V—Vacuum.
Vac—Vacuum.
Wo—Worm.
Zen—Zenith.
†—Front brakes Extra Cost.
*—Driver beside engine.



Continental Bus Chassis



маке	Seating Capacity	Wheelbase (Ins.)	Track (Ins.)	Tires Front	Tires Rear	No. of Wheels	No. of Cylinders Bore and Stroke	Valve Arrangement	Carburetor Make	Fael Feed	Ignition Make	Clutch Type	Gearset Location	No. Forward Speeds	Final Drive	Brakes (Foot)	Brakes (Hand)	Brakes Operation
							FRE	N C I	Н									
Sernard. Laffly Renault Renault Scemia Somua	20 20 30 40 40 45	180 177 139 236 236 216	65 66 56 69 69 66	32x6 855x155 775x145 36x7 36x7 36x7	32x6d 855x155d 775x145 36x7d 36x7d 36x7d	6 4 4	6-3.22x4.52 4-3.54x5.11 4-2.95x4.72 4-4.33x6.29 4-4.33x6.29 4-3.93x5.90	L L	Own Renau	Vac	SEV	Cone Cone	Sep Sep	4 4 4	SpB DR	FR	R	Direct. Direct. Servo. Servo. Servo. Direct.
							BELC	IA	N									
Bovy	35 30 45 36	196 204 213 210	64 70 78 69	34x7 855x155 1025x185 38x7	34x7d 855x155d 1025x185d 38x7d	6	6-3.62x4.72 4-3.14x5.11 8-3.14x5.11 4-4.33x5.51	I	Sthen	Vac	Delco.	Disk	UÉ	4	DR	FR	R R FR	Direct.
•							ITAL	IA	N									
Lancia Lancia	30 50	186 201	64 73	955x155 985x205	955x155d 985x205d	4 4	4-4.33x5.11 6-3.93x5.90	$]_{1}^{L}$	Zenith Zenith	Vac Vac	Bosch	Disk Disk	Sep UE	4 4	Bev Bev	FT	R	Direct.
							SW	ISS								1		
Saurer	40	228	70	40x9	40x9d	4	6-4.33x5.90	1	Own	. Vac	Seint	Disk	UE	4	DR	FR	ER	Direct.

ABBREVIATIONS:

-Bevel. d—Dual.

Disk—Multiple Disk

-Unit with engine. Worm

New British Cars Above 13 hp. Are 65 Per Cent Sedans

RECENT statistics issued by the British Ministry of Transport concerning the motor vehicle registrations during the six months of March to August, 1927, include a table showing the number of open cars and saloons registered for the first time in each horsepower category from six to 50, the power being that $\frac{D^2N}{25}$ the term saloon includshown by the tax rating $\frac{D N_1}{2.5}$ ing sedans and other types of closed bodywork.

From this table it appears that, of the total number (approximately 98,000) of new cars of all sizes registered in that period, over 56,000 were phaetons or roadsters and nearly 42,000 sedans. The numerical ascendancy of the open cars occurs in the smaller sizes (6 to 13 hp.), for in every rating from 14 hp. to 50 hp. the percentage of closed cars is 50 or over. As shown by the accompanying chart, however, there is no approach to uniformity in the percentages above that line of demarcation, and there are 20 classes over 18 hp. that show a smaller proportion of sedans than in the latter category. Of cars of less than 30 hp., sedans show the biggest representation at 18 hp. and 25 hp., while at 45 hp. the percentage falls as low as 50.

These official returns do not confirm the statements of manufacturers and dealers in general and custombody builders in particular, who have asserted that, for some while past, the percentage of closed cars of over 14 hp. is nearly 100, and it is difficult to account for

the discrepancy. It is evident, at all events, that there is still an appreciable demand in England for open cars in the larger sizes, and partly accounting for that is the fact that frequently where more than one car per family occurs the second has an open body, or bodywork of the type equipped with an "all-weather" folding top.

A point to be noted in these statistics is that 89 per cent of the total number of new cars registered during the period mentioned were of less than 20 hp.; almost precisely 50 per cent were of less than 14 hp. The 12 hp. and 14 hp. class were the most numerous of any (approximately 20,000 and 16,000 respectively), the 8 hp. class coming third with 13,750 a class that includes the increasingly popular Austin Seven.

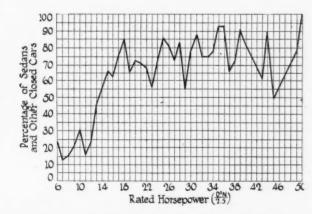
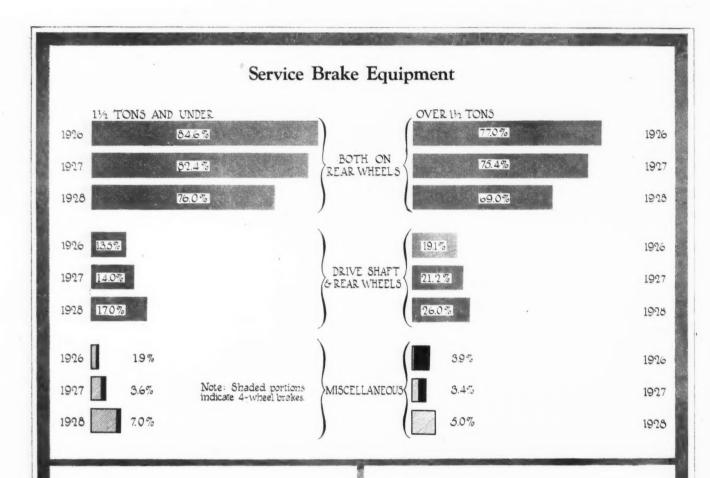
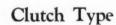
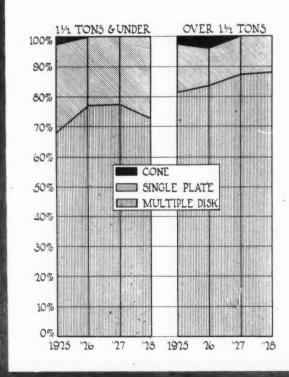


Chart showing percentage of sedans and other closed cars in British registrations

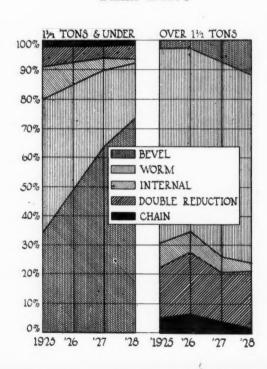
Current Trends in



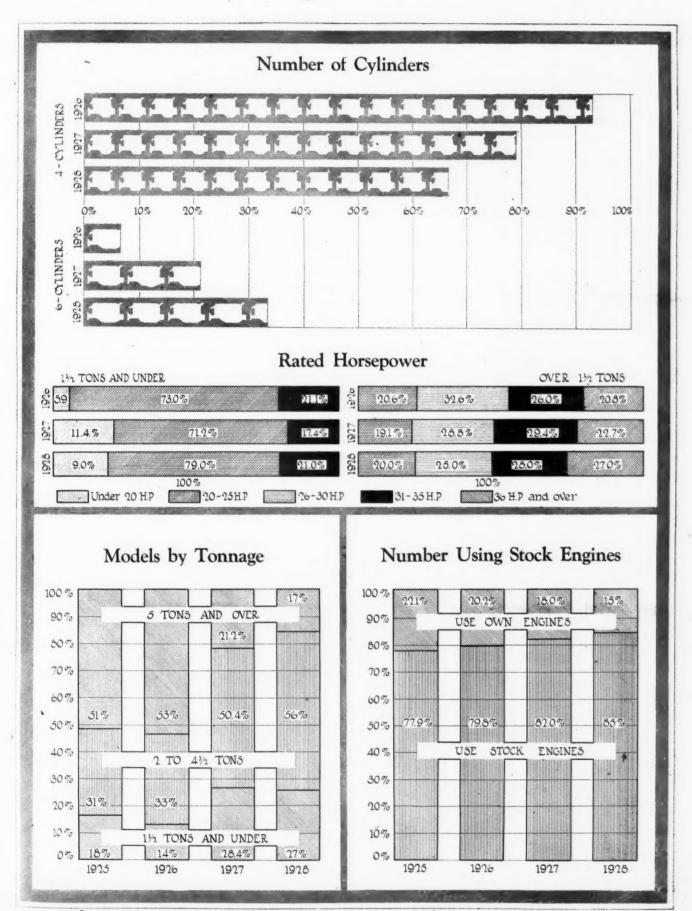




Final Drive



Motor Truck Design





American Gasoline

TRUCK		2		RES TYPE	EN	IGINE		FUE	L		TRICAL TEM	Clutch	Gearset		REAR A	XLE						
MAKE AND MODEL	Price (\$)	Wheelbase (Ins.)	Frent	Rear	Make and Model	No. of Cyls. Bore and Stroke (Ins.)	NACC H.P.	Carbureter	Feed Type	Ignition Make	Generator and Starter Make	Type and Make	Make and Model	Universal Make	Make and Model	Final Drive	Axle Type	Brakes Location	Front Axle Mak	Steering Gear Make	Wheels Make	Weight (Lbs.)
Acme	3950 4950 5750 3950 4950	166 156 Opt Opt Opt 131 133	P30x5 P 30x5 P 32x6 P 32x6 S 34x5 S 36x5 S 36x5 P 32x6 P 30x5 P 30x5 P 34x5 S 36x5 S 36x5 S 36x5 S 36x5 S 36x4 S 36x5 S 36x7 S 36x5 S 36x5 S 36x7 S 36x5	P 30x5 P 30x5 P 30x5 P 30x5 P 32x6 P 32x6 S 34x8 S 36x10 P 30x12 P 30x14 P 30x5 P 30x10 P 30x10 D 30x1	Con H8°. Con S4. Con S4. Con S4°. Con L4°. Con B7°. Con B7°. Con B8. Con Con B8. Con Con B8. Con B9°. Con B9°. Con B9°. Con B9°. Con B7°. Con B7°. Con B8. Con B9°. Con B7°. Con B7°. Con B7°. Con B8°. Con B7°. Con B7°. Con B8°. C	6-38/x44/x 6-31/x48/x 40-41/xx41/x 40-41/xx5/x 44-5x6 40-38/xx41/x 6-38/xx41/x 4-5x6 4-3/xx41/x 4-41/xx5/x 4-41/xx6 4-41/xx6 4-41/xx6 4-41/xx6 4-41/xx6 4-41/xx6 4-41/xx6	28.9 27.3 25.4° 28.9° 32.4° 40.0 28.9 27.3 33.7° 32.4° 40.0 28.9 28.9 32.4 33.7 28.9 28.9 36.1	Zen. Zen. Zen. Zen. Zen. Zen. Zen. Zen.	V V V V V V V V	A-L ABos	A-L. A-L. A-L. A-L. A-L. A-L. A-L. A-L.	D Ful D. B-L P. B&B D. Own D. Own D. Own D. Own	Ful SU12 Ful GU12 Ful GU14 Ful HOG Ful HOG Ful HOG Ful HOG Ful Ful Ful Ful Ful B-L 51 B-L 51 B-L 60 Own 3R Own 5R Own 2R Own 2R Own 3R	Blo Blo Blo Blo Blo Blo Blo Blo Blo	Sal 1595E Col 54010 Tim 6500 Tim 65600 Tim 65600 Tim 65600 Tim 66600 Tim 66600 Tim 65600 Tim 65660 Tim 65660 Tim 65660 Tim 65660 Tim 65660 Tim 65660 Tim 65600 Tim 6560 Tim 6560 Tim 6560 Tim 6560 Tim 6568 Tim 6500 Tim	S. S. W. W. W. S. S. S. W. W. W. S. S. W. W. W. S. W. W. W. S. W. W. W. R. W. W. W. R.		B	Tim Tim Tim Tim Tim Col Tim Tim Tim Tim Tim Tim Tim Tim	D-G. Ross. Ross. Ross. Ross. Ross. Ross. Ross. Ross. Ross. Ross. Ross. Ross. Ross. Ross.	Bim Smi Day	2000° 3450 3600 4000° 55100 6250° 7900 3625 4000 6000° 9200 3600° 5500 7400 5100 6600° 9600 6400 8400 9500°
Armleder 30, 30, 8 30-6 15 Armleder 40-6, 40 2 Armleder 50-55 24 Armleder 60-6, 50-6 24 Armleder 60-6 3 Armleder 60 3 TT 6 4 Armleder 60 3 TT 6 Armleder 60 4 Tmleder 60 3 TT 6 Tmleder 60 4 Tmleder 60 5 Tmlede	33 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	148° 149° 152° 158° 158° 158° 158° 156° 115° 119° 142° 142° 142° 142° 142° 142° 142° 142° 150° 158° 158° 158° 158° 158° 158° 158° 158° 159° 158°	S 34x44 S 35x44 S 35x44 S 35x44 S 35x44 S 35x44 S 35x44 S 35x44 S 35x44 S 35x45 S 35x5 S 35x5	S 34x6‡ S 36x8 S 36x810‡ S 36x10‡ S 36x10‡ S 36x10 P 32x6 S 36x12 P 32x6 S 36x10 S 36x12 P 30x5 S 36x12 P 30x5 S 36x10 D P 30x5 P 34x8 D P 34x7 S 36x10 D S 34x8 D D S 34x8 D D S 34x8 D D S 34x8 D D S 34x7 S 36x10 D S 34x7 D S 36x10 D	Her° OX. Her° OX. Her° OX. Her° OX. Buda° EBU-Buda BUS. Buda BUS. Buda BUS. Buda BUS. Her OX. Buda YBU-I° Own A. Own Y. Own Y. Own M. Con SR. Con 6B. Con 7T. Buda BTU. Wis C. Wis SU. Wis Y. Wis SU. Wis Y. Wis SU. Wis Y. Wis SU. Wis Y. Wis BUG Wis Y. Wis BUG Wis Y. Wis BUG Wis Y. Wis BUG Wis Y. Wis Con K4. Con L4. Con	4°-4x5 4°-4x5 4°-4x5 4°-4x5 4°-4x5 4'-4x5 6'-3x6 4'-4x5 6'-3x6 4'-4x5 6'-3x6 4'-4x5 6'-3x6 4'-4x5 6'-3x6 4'-4x5 4'	25. 66 25. 66 28. 94 28. 84 94 32. 85. 86 28. 94 32. 87 28. 95 28. 96 28. 96 28. 97 28	Zen. Zen. Zen. Zen. Zen. Zen. Zen. Zen.	V.V.V.V.V.V.V.V.V.V.V.V.V.V.V.V.V.V.V.	ABos ABos ABos ABos ABos ABos ABos ABos	A-L. A-L. A-L. A-L. A-L. A-L. A-L. A-L.	D. B-L. D. B-L	B-L. B-L. B-L. B-L. B-L. B-L. B-L. B-L.	Spi. Spi. Spi. Spi. Spi. Spi. Spi. Spi.	Tim Own M Own M Own M Own M Own M Cla Tim	WWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWW	VEREFFEE FEE VIEW FEE FEE FEE FEE FEE FEE FEE FEE FEE F	A. A	Tim Tim Tim Tim Tim Tim Tim Tim Tim Shu Shu Shu Shu Shu Shu Shu Tim	Ross.	Smi St.M.	4400°

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.M.C. .M.C. .M.C. .M.C. .M.C. otfreds otfreds

Weight (Lbs.)

6400 8400 9500° 4400°

Truck Chassis



TRUCK			7		RES & SIZE	E	NGINE		FU	EL		TRICAL STEM	Clutch	Gearset		REAR A	XLE					
MAKE AND MODEL	Tonnage	Price (\$)	Wheelbare (Ins.)	Frent	Rear	Make and Model	No. of Cyls. Bore and Stroke (Ins.)	NACC H.P.	Carbureter	Feed Type	Ignition Make	Generator and Starter Make	Type and Make	Make and Model	Universal Make	Make and Model	Final Drive	Axle Type	Brakes Location Front Axle Make	D Su	Wheels Make	
ay Elder	4 5		162° 170°	S 36x5 S 36x6	S 36x12 DS40x7	Buda YBU Buda BBU	4-4½x6 4-5x6½	32.4 40.0	Zen Zen	V		D-R‡	D. B-L.	B-L 55 B-L 60	Spi	Tim 66600D Tim 67600D				Gem.	Van	85
efianceFRT	11/4 11/4 2		127 129 145	P 30x5 P 30x5 P 32x6	P 30x5 P 30x5 P 32x6	Own 25 Con 20L Con 12C	6-23/4x43/4	23.4 18.1 25.3	Zen	v	L-N A-L	L-N D-R	P. B&B P. B&B P. B&B	Dur W-G.T64J	Spi Spi Spi	Col 35008	B	1/2. F	A. Shu. Shu.	Gem. Gem. Han.	Smi Smi	. 30
efianceEVT	2 2½ 3		160 175 1831⁄2	S 34x4 S 36x4 P 32x6	S 34x8 S 36x8 DP32x6	Her Con S4 Con 6B	4-3%x5½8 4-4½x4½	22.5 28.9 33.7	Zen Zen Zen	V	ABos A-L	A-I	D. B-L. D. Ful.	Cot Ful GU12.	Spi Spi Spi	Tim 6460 Tim 6460 Wie 8800D	W. W. R.	1/2. F.	A. Tim.	Han. Ross	StM .	. 43 . 51
	114		128 155 170	P 34x5 S 36x4 S 36x5	P 36°x6° S 36x8 S 36x12	Her O Con K4° Con L4	4-4x5 4-41/8x51/4	25.6 27.2° 32.4	Zen Zen Zen	G	ABos	ABos	D. Ful. D. Ful.	Ful	UP	Col	S I	D	Con.	Ross.	StM. Smi	. 33
amond T	5		170 130	S 36x6 P 30x5	DS40x6 P 30x5	Con B5 Her OX	4-4%4x6 4-4x5	36.1 25.6	Zen Zen	G	Eis Eis Apo	A-Lt	D. Ful. D. Ful. D. Cov.	Ful Cov JUC	UP	Col 54005	B	D D	Tim.	Ross.	Smi Smi	. 70 85 32
amond T	2 1/2, 2 21/2		144½ 144 161	P 30x5 S 34x4 S 36x4	P 32x6 S 34x7 S 36x8	Her OX Her OX Ler K	4-4x5 4-4x5 4-41/x58/	25.6 25.6 28.9	Str Str	62	Apo	A-Lt	D. Cov.	Cov JUC Cov JUC Cov RAD4	Spi	Tim 562D Tim 64600D	S W.	F	A. Shu.	Ross. Ross. Ross.	Smi Day. Day	45 52
amond T	.31/2		1823/4 170° 171°	P 34x7 S 36x5 S 36x7°	DP34x7 DS36x5° S°40x14°	Her L	4-41/2x58/4 4-41/2x58/4	$32.4 \\ 32.4$	OFF	U	Apo	A-L	D. Cov.	B-L 55 Cov	Spi	Tim 65600D Tim	W. W.	F	A. Tim.	Ross.	Bud Day	. 61 . 72 . 78
mond TT3T	TT		119½ 129¼	S 36x3½ S 36x4	S 36x5 S 36x8	Her G Her OX Her K	4-4x5 4-41/4x53/4	36.1 25.6 28.9	Str Str	V	Apo	None	D. Cov. D. Cov. D. Cov.	Cov JUC.	Spi Spi	Tim	W. W.	F	A. Tim.	Ross. Ross.	Day	100
mend T	TT 2	2950	1187/8 121 146	S 36x5 S 36x6 S 34x4	DS36x5 DS40x7 S 34x6	Her L Her G Her OX	4-43/4x51/2	32.4 36.1 25.6	Str			None A-L	D. Cov.	Cov RAD4 Cov SB B-L60 Max	Spi		W.	F	A. Tim.	Ross.	Day.	
on	,3½,5 3	4000	160° 144	S 36x5 S 36x6‡	S 36x10° S 36x6‡	Her G Buda ETU	4-4 ⁸ / ₄ x5 ⁸ / ₄ 4-4 ¹ / ₄ x5 ¹ / ₂	36.1 28.9	Zen Zen	V	Eis Spl	D-R D-R Opt	D. Ful. D. Det.	Cov SB. B-I.60 Max Ful GU. Ful. Own D.T.T Ful. Ful. Ful GU14. Ful RU-16. Ful RU-16. Ful H.	Spi Spi Own.	Tim 6462 Tim Own D.T.T.	W. W. W.	F	A. Shu.	Ross. Ross.	Van Std	66
iglas iglas	$\frac{11_{2}}{11_{2}}$		150° 116 118°	P 30x5 P 30x5 P 32x6	P 32x6 DP30x5 P 34x7	Buda WTU.	4-33/x51/6	27.3° 22.5 25.6°		V V V	RBos RBos	N-E None	D. Ful.	Ful Ful.CU14	Blo	Wis 4600 Wis 4600 Wis 6600	R R R	F	A Tor. A Wis.	Ross.	Van	3
ıglas	3		156° 186	S 36x5‡ P 36x6	S 36x10‡ DP38x7	Buda KBU-I° Buda YBU-I. Buda BUS	4-4½x6 6-4x5½	32.4 38.4	Zen Zen	V V	RBos RBos	Opt	D. Ful. D. Ful.	Ful RU-16. Ful RU-16.	Blo	Wis 8800A Wis 8800A	R	F /	A. Shu.	Ross.		64
lex GF GS	3 5 1½		142	P 38x7 S 36x6 P 32x6	DP38x7 S 40x12 P 34x7	Buda BA6 Buda BBU Buda HS6°	4-5x6½ 6°-3%x4½	40.0 27.3°	Zen	V V V			D. Ful. D. Ful. D. B-L.		77 .		R R W.	F. /	A. Shu. Wis. A. Shu.	Ross.	Van Van Smi	9: 3:
let	3		166		P 36x8 S 36x8 S 36x8		6°-41/8x51/8	40.8°	Zen Zen	V	Eis	A-L	D.B-L.	B-L B-L	Pet Pet	Tim	W.	F	A. Shu.	Ross.	Smi Smi	5
e	2,3		130° 130°	P 30x5 S 34x5‡	P 30x5 S 34x81	Lyc CT Buda KTU	4-334x5 4-4x514	22.5 25.6°	Zen Zen	V G	A-L Eis	A-L	D. Cov.			Col 350-3	I B R	1/2. 1	Col Col	Ross.	Bim Smi Smi	6 3 5
e	5 1		154°	S 36x6	S 36x12 S 40x14 DP30x5	Buda BTU	4-5x61/2	32.4 40.0 29.4°	Zen	G	Eis	D. P.	D. B-L. I	B-L 60 B-L 60	Pet	Wis 1450 Wis 1600	R	F A	Wis	Ross.	Smi Smi	80
eol	3	4625	172 172	S 36x5 DS36x6	DS36x5 DS36x6	Wau KS° Wau AB	6°-4x434 6-416x534	38.4° 48.6°	Zen	v	RBos RBos	D-R	D. B-L. I D. B-L. I	B-L 55&60 B-L 55&60.	Spi Spi	Tim 65700	W.	F A F A	Tim.	Ross.	K-B	48 78 98
eol 645, 685 eral Scout F6			172	P 30x5	DS36x5 DS40x7 P 30x5	Wall X	6-4½x5¾ 6°-4½x5¾ 4°-3½x4½	18.6°	Zen Zen Zen	v	RBos	D-R	D. B-L. I D. B-L. I P.Long [®] (Cov JUC. Cov	Spi Spi Pet	Tim 68700	W	F. A	Tim	Ross. Ross. Gem.	K-B	104 104 24
eral T20, T2B eral.T2W, T6W, T6B eralU5, 2B6	2 2 3		144	S 34x4	P 34x7 S 34x7 DP32°x6°	Wau V	4-4x5 6°-31/x45/6	25.6 25.3°	Zen	V	D-R	D-R	P. B&B (P. B&B (P. B&B I	Own	Pet.	Tim	B. W°	F A	Own.	Gem.	M.M Day	39
eralX8	1		157 163	S 36x5 S 36x6	DS40x5 S 40x14	Con L4 Con B7	4-4½x5½ 3	32.4 10.0	Zen	V I	19	D-R	P. B&B I	3-L 55	Pet	Tim65700SP Tim66700SP Tim68700SP	W.	F E F E	Tim	Gem.	Day	54 70 91
eral	TT T		25	S 36x5	DS36x5	Con L4	4-416x516 3	2.4	Zen	V I	disl	D-R	P. B&B H	3-L 55 1 3-L 55 1	Pet	Tim65600SP	W.	F B	Own.	Gem.	Day	50 67
or Foot Cat	1/2		146 146	S 30x5 P 32°x6°	S 32x6	Con S4	1-41/4x41/2 2	8.9	Str	VIA	Bos	Bos I	D. Ful. I D. Ful. I	Pal SII12 II	Blo	Col 5400	B	2. B	Col	Ross. Ross.	Own.	35
er Mer Exp	1/2	460	1311/2	P 30x5	P 32x6 S 36x61	Con 6B Own Buda WTU	$-3\frac{1}{8}$ x4\frac{1}{4} 2 $-3\frac{3}{4}$ x5\frac{1}{6} 2	2.5	Zen	7 0	wn	JWB I	U. UWn C	Wn	JWD.	Own	W.	4. E	Own.	Ross. Own.	Day Own.	51
ord20, 20-6 1 ord30, 30-6 1 ord30, 30-6 2	1/2		144	P 32x6	P 30x5 P 34x7 P 34x7	Buda HS6° Wis Y° Wis Y°	3°-33/8x41/2 2 3°-33/8x5 2	7.3° 7.3° 7.3°	Zen	V A	-L	-L I	P. B&B M D. Own E	fun 8 3-L 35 I	pi 3.G	Own D-2. Col	8 Í	A A	Col Own.	Han	Day	33 33 48
ord 50, 50-6 2	12/		156 162	S 36x4 S 36x6°1	S 30x8 S 40x14°	Buda BUS	1-5x61/2 4	0.0	Zen. (1 S	plP	loneI	D. Own E	3-L 35 S 3-L 55 S 3-L60 Max B	pi	Tim 64600D Tim 65600D Tim	W.	2. A 2. A	Own. Tim	Ross.	Day	48 61 94
	TT S	3805	130	S 36x6 S 36x4 S 36x6°	S 40x14 S 36x8	Buda BTU	$-5x6\frac{1}{2}$ $-4\frac{1}{4}x5\frac{1}{2}$	0.0 8.9 0.0	Zen (C Zen (C	S	pl !	lone I	D. Own B	B-L 60 H	3.G	Tim 68600D V	W. I	A	Tim	Ross.	Day	101
.CDeL. Delivery		585 1095	110 132°	P 30x5	B 29x4.75 P 30x5	Pontiae	$-3\frac{1}{4}x3\frac{3}{4}$ $\frac{2}{2}$ $-3\frac{1}{8}x4\frac{1}{2}$ $\frac{2}{2}$	5.3 (3.4 I	Mar \	7 I	-R. I)-R I	P. Own O	wn (J-M.	Own H Tim 5260 H	33	2. A 2. A				94 18 29
C T 40, T 50 2	3		36°	P 32x6 S 36x5	P 36x6 P 34x7 S 36x12°	Buick Master (Own 89	-31/2x48/4 2 -31/2x48/4 2 -41/2x61/3 3	9.4	Mar V	I	R. I)-R I	O. Own O	wn K32U	J-M.	Own K32 I Own ^o I Fim 65700D V	3	4. E	Tim Own. Own. Tim	Ross.	Day	36
CK 72 3 CK 102 5 C.K-10T,K-15T-TT 1	0,15	320	60° 1134	S 36x6 19	5 40x12 5 40x14 5 36x14°	Buda BTU Pontiac Buick Std Own K 32 Buick Master Own 89 Own 89 Own 89 Buda WTII	$-4\frac{1}{2}x6\frac{1}{2}$ 3 $-4\frac{1}{2}x6\frac{1}{2}$ 3	2.4	Mar V	E	is I)-R I	O. Own O	wn C	wn.	Fim	V. F	A	Tim	Jac Own.	Day Day	67 81 92
edson20B I	1/2		31° 55°	P 30x5	0 20-0	D. J. TICOA	-3 ³ / ₄ x5 ¹ / ₈ 2 -3 ³ / ₈ x4 ¹ / ₂ 2	2.5 7.3	enV	E	-R. I	-R P	P. B&B B	-L 20B S	pi	Cla B365 F Fim 5620 E	N . 1 3 1 3 1	2. B.	Shu	Ross.	Day	84 30 45
edson	1/2 .		5643° 4676° 54-8°	8 36x41 8 8 36x51 8 8 36x51 8	36x81 36x101	Buda BA6°6 Buda KBU-I 4 Buda EBU-I4 Buda BA66 Buda YBU-I4 Buda BBU6	-4x51/4 2 -4x51/4 2	0.8° 2 5.6 2	enV	R	Bos. I	-R [B&B B B	-L 35 8	pi	Fim64600SP V Fim65600SP V	V. 1	2. B.	Tim	Ross. I	Day	55 58
edson	2,3		66½°	36x6°‡	36x12°‡1 DS40x7	Buda BA66 Buda YBU-I.	41/8x51/8 4 -41/2x6 3	0.8 2	enV	R	Bos I	-R). B-L. B	-L. S -L55 Max S	pi	FimV	V. F	B.	Tim	Ross. I Ross. I	Day	63: 68: 84:
am Bros SD 1	,5 .	i	08	B29x5.00	DS 40x8 DS 40x8° 1 B 29x5.00 1	Buda BBU 4 Buda GL6 6 Dodge 4	-37/8x41/6	8.6 Z	en. V	R	Bos. I	-R[). B-L. B). B-L. B	-L. S	pi] pi]	rm68700SP V	V. F	B.	Tim	Ross. I Ross. I	Day 1	120
am Bros. DD, DDX	4	1	16 37°	P33°x41° 1 P 30x5	P33°x4½° 1 P 30x5 P 33x5	Buda GL6	-31/8x41/2 2 -37/8x41/2 2	4.0	te V	. N	-E N	-E P	B&B D	wnU	od I	Fim 65700D Fim Fim		2. A. 2. A.	Own.	Ross. R	lay	203 221 286
18m Rros MDV I DV 1	1/2	:l	62°	P 32x6 1	P 32x6 P 36x6	Dodge4 Dodge4	-37/8x41/2 2 -37/8x41/2 2	4.0 8	teV	N	-E N	-E P	B&B O	wnU	-P (ownS ownS	1	A.E.E.	Own.	Ross. C	la	287 359 358
ham Bros. OD, ODR 2 ham Bros ODX 2 ham Bros TD, ED 2 ham Bros. TDR, EDR 2	1	770 1	37 37 14°	P 34x5° 1 P 32x6 1 P 32x6	DP34x5° 1 DP32x6 1	Dodge. 4 Dodge. 6 Dodge. 6 Dodge. 6 Dodge. 6 Dodge. 6 Lyc S. 6 Lyc TS. 6	-314x41/2 2: -314x41/2 2:	5.3 8	tr V	N	-E N	-E P	B&B O	wnU	-P (wnS		E. E.	Own.	Ross. E	udd udd	390
	1	820 1	14 I	P 34x5 I	DP34x5 DP32x6	Dodge6	-3½x4½ 2 -3½x4½ 2	5.3 8	trV	N N	-E N	-EP	B&BO B&BO	wnU	-P (wnS wnS		E. E.	Own.	Ross. E	udd	372 385 402
mm	16 2	1485 1 955 1 985 1	33° 1 33° 1 50° 1	2 30x5 2 32x6 2 32x6	32x6 34x7 0P32x6	Lyc S 6	-31/4x41/2 21 -31/4x41/2 21 -37/4×5	5.3 Z 5.3 Z	en G	A	LA	-L D	Cov. C	ov B	lo E	Eat 1002 B	1	B. B.	Col	Ross. S	mi	358 384
mm O35 3 mm O35, T38 3	4	160 1	530	36x5‡	36x10‡	Her L 4	-4½x5¾ 3	2.4 2	en V	A	L. A	-L D	Ful. F	ul HB	lo V	Vis 88EF. R	F	. B.	Wis.	Ross. S	an	480 710



American Gasoline

					RES & SIZE	E	NGINE		FUE	L		TRICAL TEM	Clutch	Gearset		REAR A	XLF	5					==
TRUCK MAKE AND MODEL	Tonnage	Price (\$)	Wheelbase (Ins.)	Front	Rear	Make and Model	No. of Cyls. Bore and Stroke (Ins.)	NACC H.P.	Carbureter	Feed Type	Ignition Make	Generator and Starter Make	Type and Make	Make and Model	Universal Make	Make and Model	Final Drive	Axle Type	Brakes Location	Front Axle Make	Steering Gear Make	Wheels Make	Weight (Lbs.)
Gramm-Bernstein. 10 Gram'-Bernst ni 115,115S Gramm-Bernst ni 115,115S Gramm-Bernstein 125 Gramm-Bernstein 125 Gramm-Bernstein 30 Grams-Bernstein 30 Grass Premier . 45, 45-6 Grass Premier . 45, 45-6 Grass Premier . 50-6 Grass Premier . 80, 80-6 Grass Premier . 80 Grass P	15.114223	1650 3450 3450 4256 74256 550 3956 44256 1566 4426 444 44 42 44 42 44 42 44 42 44 44 44 42 44 44	152 160 160 160 160 160 160 160 160 160 160 160 160 154 154 160 162 162 160 162 162 160 162 162 160 162 162 162 162 162 163 160 162 163	P 30x5 P 33x5 P 33x5 P 33x6 P 34x7 S 36x6 S 36x6 P 33x5 P 30x5 P 30x5 P 30x5 P 30x5 P 30x5 P 30x5 P 30x6 P 30x7 P	DS36x10 S 36x12 S 36x12 S 36x12 S 36x12 S 36x12 S 36x12 S 36x2 S 36x7 S 36x6 S 36x7 S 36x6 S 36x12 S 36x13 S 3	Buda EBU-I Buda DW6 Buda YTU Buda BTU Buda HS 6 Buda EBU-I Buda YBU Buda YBU Buda YBU Buda YBU Buda HS 6 Buda WTU Buda HS 6 Buda WTU Buda KBU Buda KBU Buda KBU Buda HS 6 Buda WTU Buda HS 6 Buda WTU Buda KBU Buda HS 6 Buda WTU Buda HS 6 Buda WTU Buda Bus Buda WTU Buda Bus Buda WTU Buda Bus Buda KBU Buda WTU Buda HS 6 Buda WTU Buda LB Buda KBU Buda DW6 Buda DW6 Buda DW6 Buda DW6 Buda DW6 Buda DW6 Buda WTU Buda KBU Buda KBU Buda KBU Buda KBU Buda KBU Buda WTU Buda WTU Buda KBU Buda WTU Buda KBU Buda KBU Buda WTU Buda WTU Buda KBU Buda KBU Buda WTU Buda WTU Buda KBU Buda WTU Buda WTU Buda KBU Buda WTU Buda HS 6 Buda KBU	4-5x6 6-31/4x41/2 6-31/4x41/2 6-31/4x41/2 6-31/4x41/2 6-31/4x51/2 6-	33 7 2 3 3 6 2 5 3 3 3 6 2 5 3 3 3 6 2 5 3 3 3 6 2 5 3 3 3 6 2 5 3 3 3 6 2 5 3 3 3 6 2 5 3 3 3 6 2 5 3 3 3 6 2 5 3 3 3 6 2 5 3 3 3 6 2 5 3 3 3 6 2 5 3 3 3 6 2 5 3 3 3 6 2 5 3 3 3 6 2 5 3 3 3 7 7 3 3 6 6 1 7 3 3 3 7 3 7 3 7 3 7 3 7 3 7 3 7 3 7	Zen. Zen. Str. Zen. Zen.	G.G. V. V. V. V. G.G.G.G.G.G.G.G.G.G.G.G	A-L. A-L. A-L. A-L. A-L. A-L. A-L. A-L.	A-L. A-L. A-L. A-L. A-L. A-L. A-L. A-L.	D. Ful. D. B.L	Mun T23. Mun T23. Ful SU12. Ful GU. Ful GU. Ful GU. Ful GU. Ful H 1. B-L 31. B-L 31. B-L 35. B-L 55. B-L 55. B-L 55. B-L 55. B-L 55. B-L 51. B-L 55. B-L 55. B-L 60. B-L 60. Ful GU. Ful HU. Ful SU12. Ful SU12. Ful SU12. B-L 55. B-L 51. B-L 55. B-	Blo. Own. M.	Wis 1700. Wis 1700. Wis 1200. Wis 1700. Sal A. Cla B501. Wis 9890T. She. She. She. She. She. Cla 366. Cla 366. Cla 366. Cla 366. Cla 366. Wis 600. Wis 600. Wis 1600. Eat 1002. Eat 1504. Eat 1600. Eat 1700.	W E. S. S. R. W W W W W W W W W W W W W W W W W W	SAME FROM THE SAME STATE OF THE FREE FREE FREE FREE FREE FREE FREE FR	B. A.	Tim. Tim. Tim. Tim. Tim. Tim. Shu. Shu. Shu. Shu. Shu. Shu. Shu. Shu	Ross.	Int Van. Van.	3300 3600 3700° 3830 4840° 4113° 5190° 7350 6500 6500 6500 3000° 3000° 4070 3320° 3385° 4790 3321° 5660 8175° 6500 10320° 4070 4070 10320° 4070 4070 10320° 4070 4070 4070 4070 4070 4070 4070 40

Truck Chassis—Continued



TRUCK			3		RES & SIZE	Е	NGINE		FU	EL		TRICAL STEM	Clutch	Gearset		REAR A	XLE					
MAKE AND MODEL	Tonnage	Price (\$)	Wheelbase (Ins.)	Front	Rear	Make and Model	No. of Cyls. Bore and Stroke (Ins.)	NACC H.P.	Carbureter	Feed Type	Ignition Make	Generator and Starter Make	Type and Make	Make and Model	Universal Make	Make and Model	Final Drive	Axle Type	s Loc	Front Axle Make Steering Gear	Make Wheels Make	Weight (Lbs.)
Kleiber Special	11/4/5 2 2 3 3 5 2 2 3 3 5 2 2 3 3 5 2 2 3 3 5 1 2 3 3 5 2 3 3 5 2 3 3 5 2 3 3 5 2 3 3 5 2 3 3 5 2 3 3 5 2 3 3 5 2 3 3 5 3 5 5 3 5 5 3 5 5 5 5 5 5 5 5	4000 4350 2050 4250 34650 1350 23300 3450 54700 6000 7 5500 7 4950 7 4950 8 450 8 50 8 50	142° 154° 158° 158 170° 144° 132	S 36x5 S 36x5 S 36x5 S 36x5 S 36x5 S 36x5 S 36x4 S 36x4 S 36x4 S 36x4 S 36x5 S 36x4 S 36x5	#\$36**10** \$ 36**10** \$ 36**10** \$ 36**10** \$ 36**10** \$ 36**10** \$ 36**10** \$ 36**10** \$ 36**10** \$ 34**6* \$ 36**8* \$ 36**8* \$ 36**8* \$ 36**8* \$ 36**8* \$ 36**6* \$ 34**7* \$ 36**10** \$ 36**10** \$ 36**10** \$ 36**10** \$ 36**10** \$ 36**8* \$ 36**8* \$ 36**8* \$ 36**8* \$ 36**8* \$ 36**10** \$ 36	Con 6B Con L4. Own. 40000 Own 50000 Wau DU Con Wau DU Con K4. Con 8R. Con 6B. Con L4 Buda BUS Con S4. Con 6B. Con 15H° Con 12C. Con 12C. Con 6B. Con L4. Con 6B. Con K4. Con 12C. Con 12C. Con 12C. Con 6B. Con K4. Con 14. Con 15H° Con 12C. Con 15H° Con 12C. Con 6B Con K4. Con K4. Con K4. Con L4. Con L4. Con L4. Con 12C. Con 6B. Con K4. Con 12C. Con 6B. Con ST° Con 12C. Con 6B. Con ST° Con 15C. Con 15C. Con 15C. Con 15C. Con 15C. Wau FU. Wau FU. Wau FU. Wau DU Wau EU Buda BTU Buda	4-4/4x5/4 4-4/4x5/4 4-4/4x5/4 4-4/4x5/4 4-4/4x5/4 4-4/4x5/4 4-4/4x5/4 4-4/4x5/4 4-3/4x5/4 4-3/4x	$\begin{array}{c} 48.6 \\ 6.3 \\ 25.6 \\ 6.2 \\ 25.5 \\ 5.5 \\ 32.7 \\ 22.4 \\ 40.2 \\ 22.5 \\ 33.7 \\ 22.3 \\ 33.7 \\ 22.3 \\ 33.7 \\ 22.3 \\ 33.7 \\ 22.3 \\ 33.7 \\ 22.3 \\ 34.0 \\ 40.0 \\ 20.2 \\ 32.4 \\ 40.0 \\ 22.5 \\ 6.0 \\ 32.4 \\ 40.0 \\ 22.5 \\ 6.0 \\ 32.4 \\ 40.0 \\ 22.5 \\ 6.0 \\ 32.4 \\ 40.0 \\ 32.2 \\ 40.0 \\ 32.2 \\ 40.0 \\ 32.2 \\ 40.0 \\ 32.2 \\ 40.0 \\ 33.2 \\ 40.0 \\ 30.0 \\ 40.0 \\ 30.0 \\ 40.0 \\ 30.0 \\ 40.0 \\ 30.0 \\ 40.0 \\ 30.0 \\ 4$	Zen. Str. Str. Str. Zen. Zen. Str. Str. Str. Str. Zen. Str. Str. Str. Zen. Zen. Str. Str. Str. Str. Str. Str. Str. Str	V. G. B	A-L. A-L. A-L. A-L. Eis. ABos. ABos. ABos. A-L. Eis. A-L. Eis. A-L. Eis. Apo. Apo. Apo. Apo. Apo. Apo. Copt.	D-R None D-R RBoes ABos ABos ABos ABos ABos ABos ABos ABo	D. B-L. D. W-G D. W-G D. W-G D. W-G D. W-G D. W-G D. B-L. D. B	Ful H B-L 20 B-L 50 B-L 50 B-L 50 B-L 50 B-L 55 B-L 60 B-L 60 B-L 60 B-L 31 B-L 31 B-L 35 B-L 55 B-L 55 B-L 60 B-L 31 B-L 35 B-L 55 B-L 55 B-L 55 B-L 55 B-L 55 B-L 55 B-L 51 B-L 35 B-L 31 B-L 35 B-L 35 B-L 60 B-L 31 B-L 35 B-L 51 B-L 60 B-L 31 B-L 35 B-L 60 B-L 31 B-L 35 B-L 60 B-L 31 B-L 35 B-L 60 B-L 31 B-L 55 B-L 60 B-L 31 B-L 60 Cwn AB Cown AB Co	spi	Own AC. Cla. Own AC. Cla. Tim 6462. Tim 6566. Tim 6666. Tim 6766. Col 54000. Wis 6600. Wis 8800. Tim. Cla. Tim 6566. Tim 6579. Tim 6570. Tim 660. Tim 6570. Tim 660. Tim 660. Tim 6560. Tim 6660. Tim 6560. Tim 6560. Tim 6560. Tim 6560. Tim 5560. Tim 5600.	WWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWW	FEWENDER FEEREFEEREFEEREFEEREFEEREFEEREFEEREF	A. T. A. T. T. T. A. T.	mm. George Georg	Section Sect	1. 780

Weight (Lbs.)

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American Gasoline

TRUCK			7		RES & SIZE	E	NGINE		FUI	EL		TRICAL TEM	Clutch	Gearset		REAR A	XLE						
MAKE AND MODEL	Tonnage	Price (\$)	Wheelbase (Ins.)	Front	Rear	Make and Model	No. of Cyls. Bore and Stroke (Ins.)	NACC H.P.	Carbureter	Feed Type	Ignition Make	Generator and Starter Make	Type and Make	Make and Model	Universal Make	Make and Model	Final Drive	Axle Type	Brakes Location	Front Axle Mak	Steering Gear Make	Wheels Make	Weight (Lbs.)
Pierce-Arrow RF Rehberger A, B Rehberger C Rehberger D Relay 50A Relay 70A Ree. Speed Wagen Jr. Ree. FA Ree. FC Ree. GA Republic 75-6, 75 Republic 15, 15W Republic 76-6, 50 Republic 66 Republic 68 Republic 68 Republic 68 Republic 25 Republic 25 Republic 25 Republic 25 Republic 25 Republic 25 Republic 35	2,3 4 5 2½ 3½ 1½ 1½ 2 1½ 2 1½ 2	895 1645 2185	132 162 174 186 156° 115 113 148 159 124° 1451 2 153° 154° 163° 165° 165°	S 36x6 S 36x5° S 36x6 S 36x6 P 36x6 P 36x6 P 32x6 P 32x6 P 32x6 P 32x6 P 32x6 P 32x6 P 32x6 P 32x6 P 32x6 S 34x4 P 30°x5° P 32x6 P 32x6 S 34x6 P 36x5 S 36x5 S 36x5	S 36x7 S 36x10° S 36x12 S 40x14 S 40x14 D 32x6 D 32x6 D 32x6 D 32x6 D 32x6 D 32x6 D 32x6 D 32x6 D 32x6 S 34x7 D 32x6 S 34x7	Own. Own. Own. Lye CT° Lye CT. Wau V° Lye 4SL. Lye CT. Lye TF. Con K4.	6-3 ³ / ₄ x5 6-3 ⁴ / ₄ x4 6-3 ⁴ / ₆ x5 6-3 ⁴ / ₆ x5 6-3 ⁴ / ₆ x5 4-3 ³ / ₄ x5 4-3 ³ / ₄ x5 4-4x5 6-3 ¹ / ₄ x4 ¹ / ₂ 4-3 ³ / ₄ x5 6-3 ³ / ₈ x5	32.4 32.4 40.0 33.7 33.4 25.3 24.3 24.3 22.5 22.5 22.5 22.5 31.5 27.2 30.6	Zen Zen Zen Sch Sch Sch Zen Zen	V V V V V V V V	Eis Eis Eis	D-R. D-R. D-R. D-R. N-E. N-E. N-E. N-E. A-L. A-L. A-L. A-L. A-L. A-L.	D. B-L. D. B-L. D. B-L. P. B&B P. B&B P. B&B D. B-L. D. B-L. D. Ful.	B-L 55. B-L 60. Own. Own. W-G. Own. Own. Ful. Ful.	Spi Spi Spi Spi Spi Spi Blo Blo U-P Pet Pet U-M. U-M. U-M. U-M. U-M. U-M. U-M. U	Own RF Tim Tim 6666. Tim 6760. Own. Own. Own. Own. Own. Cat. Eat. Eat. Eat. Eat. Eat. Eat. Eat. E	W. W. S	F. F. F. 1.25. F. 1.25. D. 1.25. 1.2	A A B E E A A B B	Own. Shu Tim Tim Tim Sal Own. Own. Eat Eat Eat Eat Eat Eat Eat	Ross. Ross. Ross. Ross. Ross. Own. Own. Han. Han. Jac. Han. Han.	Own. Van. Van. Van. Int. Int. Cla. Cla. Van. Van. Van. Van. Van. Van. Van. Va	9340 6460° 7940 10010 7140 8500 2290 3250 3565 4310 3000° 3350 4200 3400 4600 5400°
Republic 30 Republic 35 Ruggles 18 Ruggles 22 Ruggles 22 Ruggles 23 Ruggles 24 Rumely A Sandow G Sandow G Sandow JS Sandow JS Sandow JS Sandow JS Sandow L Sanford 345 Sanford 845 Selden Unit 34, 37 Selden Unit 34, 37 Selden 846 S	41/2 45/2 45/2 11/2 21/3 11/2 22/3 11/3 45/3 11/2 23/3 45/5 11/2 23/3 45/5 11/2 23/3 45/5 11/2 23/3 45/5 11/2 23/3 45/5 11/2 23/3 45/5 11/2 23/3 45/5 11/2 23/3 45/5 11/2 23/3 45/5 11/2 23/3 45/5 11/2 23/3 45/5 11/2 23/3 45/5 11/2 23/3 45/5 11/2 23/3 23/3 23/3 23/3 23/3 23/3 23/3	6000	170° 170° 170° 170° 170° 180° 148° 148° 148° 175° 171° 180° 148° 0pt 0pt 142° 148° 165° 165° 165° 166° 166° 190 152° 158°	S 36x5 S 36x5 P 30x5 P 32x6 P 32x6 P 32x6 S 36°x5 S 36x3 S 36x5 S 36x5 S 36x5 S 36x5 S 36x5 S 36x6 P 30x5 S 36x6 P 30x6 P 32x6 S 36x6 P 32x6 S 36x6 S	S 36x12 S 36x14 P 30x5 P 32x6 D 732x6 D 732x6 S 36x5 S 36x5 S 36x6 S 36x6 S 36x6 S 36x6 S 36x12° S 40x12 DP 30x5 D S 36x5 P 30x5 P 34x7 D S 30x5 P 34x7 D S 30x5 P 34x7 D S 30x5 P 34x7 D S 36x5 P 34x7 D S 36x5 S 36x12° S 36x12°	Con I.4. Wau DU Lyc 48G° Her OX. Lyc 48G° Her OX. Lyc 48G° Her OX Buda CTU Her OX Con CI2° Con CI2° Con CI2° Con GB Con I.4. Con B5 Con I.4. Con B5 Con B7 Con S7 C	4-4x5 4-33/x5/4 4-4x5 4-4x5 4-4x5 6-33/xx4/2 4-5x6/2 6-33/x5 6-33/x5 6-33/x5 6-4x5/6 6-4x5/6	25.6 25.3 31.5° 25.6 22.5 25.6 25.6 25.6 27.3 32.4° 40.0° 33.7° 38.4 29.3 29.3 29.3 25.3°	Zen. Str	V.G. V.G. G.G. G.G. V. V. G.G. G.G. V. V. G.G. G. V.	Eis. Eis. ABos. Eis. Eis. Eis. ABos. ABos. Con. Con. Con. Con. Con. Con. Con. Con	D-R D-R, ABos\$. None. A-L. None. A-L. None. None. Dyn. Dyn. Dyn. Dyn. Dyn. Dyn. Dyn. ABos. ABos. ABos. ABos. ABos. ABos. ABos. ABos. N-E	D. B-L. D. B-L. D. B-L. D. B-L. D. Ful. D. B-L. D. B-L. D. B-L. D. B-L. D. B-L. LO B-L. LO B-L. LO B-L. LO B-L. LO B-L. D. B-L	Ful LTU5. Ful TU34. Ful TU34. Ful TU34. Ful TU34. Ful GU14. B-L 35. B-L 60. B-L 55. B-L 55. B-L 55. B-L 55. B-L 31. B-L 31. B-L 33. B-L 35. B-L 55. B-	U-M. U-M. Spi Spi.	Eat	R. W W. S. S. W. I	D. WEELS WOLF WEELFELVESTER FEE	B. A. A. A. A. A. A. B. B. A.	Col Shu Shu Shu She She Tim Eat Own.	Jac Gem. Acoss. Han. Ross. Han. Ross. Ro	Van Van Van Van Opt Mot Opt Van	6700 7500 3000 4250 4250 4000 3595 4000 3390 6300 6300 7500 7500 7500 7720 8600 1000 5306 7750 7750 7750 7750 7750 7750 7750 77
Schacht	13T 15T 1 2½ 3½ 1TT 2½ 3½ 5½ 1 1½ 1 1½ 1 7 7 TT	470 950		S 36x4 S 36x5 S 36x5 S 36x6 S 36x6 S 36x6 S 36x4	DS40x8° S 36x10° DS40x7 DS40x7 DS40x8 P 32x6 S 36x10 S 40°x14° S 36x10 S 40°x14° S 36x12 S 40x14° S 36x12 S 40x12 S 40x14	Own 6XK Own CU Own DU Own 6KU Own 6KU Own 6AB° Own CU	4-5x6 4-4/5x6 4-4/5x6 4-5x6 4-5x6 4-3x4x5 6-3x4x5 4-4/5x6 4-3x4x5 4-4/5x6 4-3x4x6 4-3x	40.0° 32.4 42.0 22.5 33.7 32.4 28.9 32.4 27.2 32.4 36.1 18.2 29.4 33.7 30.6 32.4 43.3 40.0 48.5	Zen.	G	ABos ABos ABos ABos D-R Eis	None	D. B-L. D. B-L. P. B&B P. B&B P. B&B P. B&B P. B&B P. B&B D. B-L. D. B-L. D. B-L. D. B-L. D. B-L D.	Ful. Ful. Ful. B-L 31 B-L 51 B-L 60-7 B-L 51 B-L 60 B-L 51 B-L 60 Own Own Own B-L 31 B-L 51 B-L 60 Own B-L 51 B-L 51 B-L 60 B-L 55 B-L 60 Own B-L 55	Spi. Spi. Spi. Spi. Spi. Spi. Spi. Spi.	Tim 65600I Tim Tim 6566 Tim 6566 Tii 66700SI Ti' 66700SI Ti' 66700SI Ti' 68700SI Tim 5620 Tim 5620 Tim 65600. Own Tim 67700. Own Tim 67700.	R. W. W. W. B. W. W. W. W. W. W. S. S. B. W. C.	F F F F F F F F	B	Shu Tim Tim Tim Tim Tim Tim Tim Sal Tim	Own. Ross. Ross. Ross. Ross. Ross. Ross. Ross. Own. Gem. Ross. Ros	Int Int Int Int Day Day Day Bim Day Hoo Hoo Hoo Day Hoo	7200 9500 10000 3900 6126 9350 5785 9150 5488 8700 1500 2365 7680 7760 7680 4680
EW20T-10. Sterling EWS24T-1: Sterling ECS24T-12 EC28T-14. Sterling ECS2T-1: Sterling ECS2T-1: Sterling ECS2T-1: Sterling ECS9T-2: Sterwart Budd: Stewart 16, 16: Stewart 16, 16: Stewart 25, 25: Stewart 18. Stewart 25, 25: Stewart 35, 25: S	TTT TTT TTT TTT TTT TTT TTT TTT TTT TT	895 995 1795 1645 2490 1971 3320 4420	. 148 . 148 . 148 . 148 . 148 . 128 . 130 . 145 . 165 . 145 . 165 . 145 . 165 . 146° . 150 . 156 . 168 . 113 . 140 . 150 . 150	P 30x5 P 30x5 P 30x5 P 30x5 S 32x6 P 32x6 S 36x4 S 36x5 P 32x6 S 36x4 S 36x5 S 36x5 B 32x6	S 40x12 S 40x12 S 40x14 S 40x14 5 B 30x5.24 P 30x5 DP30x5 DP30x5 DP30x5 DS32x6 P 34x7 S 36x8 S 36x12 P 32x86 P 334x7 DS36x5 DS36x5 DS36x5 S 36x7 DS36x5 S 36x7 DS36x5 DS36x5 S 36x7 DS36x5 DS36x5 DS36x5 S 36x7 DS36x5 DS36	Own DU Own EU Own EU Own EU Own EU Own EU Own EU Own GU Con Lyc Lyc Lyc Lyc Lyc Con Lyc Lyc Lyc Lyc Con Con Lyc Lyc Lyc Lyc Con Lyc Lyc Lyc Own Con 12C Own Own Con 6B Own Buda WTU Buda ETU Buda ETU Buda YTU	4-3½x6½ 4-5x6½ 4-5x6½ 4-5x6½ 4-53½x6½ 6-2½x4¾ 6-2½x4¾ 6-3½x4½ 6-3½x4½ 6-3½x5 6-3½x5 6-3½x5 6-3½x5	19.8 19.8 25.3 25.3 25.6 31.5 25.3 36.2 36.2	Zen. Zen. Zen. Zen. Zen. Zen. Joh. Zen. Zen. Zen. Zen. Zen. Zen. Zen. Zen	V. V. V. G. G. G. V. V. G. V. G. V. G. V. G. V. V. G. V. V. G. V. V. G. V.	Eis Eis Eis D-R D-R D-R D-R D-R D-R D-R D-R	D-R D-R D-R D-R D-R D-R D-R D-R	O. H-S O. H-S O. H-S O. H-S O. H-S P. Own D. W-C D. Ful D. Ful D. Ful D. Ful D. Ful	B-L 60. Own. Own. Own. Own. Own. Own. W-G. Ful. Ful. Ful. Ful. Ful.	B.G. Own Spi. Spi. U-P. U-P. Spi. Spi.	Tim. Tim. Own Own Own Own Own Sal. Cla Cla Cla Cla Tim. Tim. Tim. Tim. Tim. Tim. She W103 She W21. Tim. She W-1501 She W-32.	C C C B B B W . W . W . W .	D. 1/2 1/2 1/2 1/2 84 F. F. F. F. F.	A A A A A E E A	Tim. Tim. Tim. Own. Own. Col. Tim. Tim. SAl. Sal.	Gem. Gem. Ross. Ross. Ross. Ross. Ross.	Hoo Hoo Day Day Own Cla Cla Van Cla Cla Day	8675 9175 8100 8800 9825 2500 2550 2550 3650 3150 3550 3250 46000 2480 43000 8800

(Lbs.)

9340

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3950 5625 7080 7750 7680 9525 0... 0... 0... 1y... 1y... 10380 8675 9175 8100 8800 ay... ay... wn...

Day... Bim... Bim... 4600 5900

Truck Chassis—Continued



TRUCK					RES & SIZE	E	NGINE		FUI	EL		TRICAL STEM	Clutch	Gearset		REAR A	XLE						
TRUCK MAKE AND MODEL	Tonnage	Price (\$)	Wheelbase (Ins.)	Front	Rear	Make and Model	No. of Cyls. Bore and Stroke (Ins.)	NACC H.P.	Carbureter	Feed Type	Ignition Make	Generator and Starter Make	Type and Make	Make and Model	Universal Make	Make and Model	Final Drive	Axle Type	Brakes Location	Front Axle Mak	Steering Gear Make	Wheels Make	Weight (Lbs.)
Twin City	21/2 31/2	2975 3750		S 36x‡ S 36x6‡	S 36x101 S 40x121	Own TW	4-41/4x6 4-41/4x6	28.9 28.9	Str	V	ABos	N-Et	P. B&B	Ful G7 Ful H	Spi Spi Blo	Cla 2B Tim 6666	W.	D	Ä	Shu Tim	Ross.	Bim Smi	562 720
United 16, 16C6 United 20	11/4		120 130	P 32x4½ P 30x5	P 32x4½ P 30x5	Wau X° Her OX	4°-3½x4½ 4-4x5	19.6° 25.6	Zen°. Zen.	G.	A-I	A-L	D. B-L.	W-G B-L 20B	Blo.	Cla B365	B	16	B	Shu	Han Ross.	Van	240
United20C6	11/4		130	P 30x5	P 30x5	Con 11U	6-31/4x45/8	25.3	Zen	V	A-L	A-L	D. B-L.	B-L 20B	Blo	Cla B-365	B.	1/2.	4	Shu	Ross.		290
United30C6	11/2		148 148	P 30x5 P 30x5	P 30x5 P 32°x6°	Con 8R Her OX	6-38/8x41/2 4-4x5	27.3 25.6	Zen	V	A-L Eis	A-L	B. B-L.	B-L 31 B-L 31	Blo	Col 54000 Wis 4600°	S R°	F.	A	Shu.	Ross.	Van	360 400
United30, 32 United 32C6, 50C6	$2.2\frac{1}{9}$		1530	S 34°x4°	S 34°x8°	Con 6B	6-33/4x5	33.7	Zen	V	ABos	Λ-L	D. B-L.	B-L 35	Blo	Wis 6600°	R	F	A	Shu	Ross.	Van	500
United 32C6, 50C6 United 50, 40D United 70, 70C6	$2\frac{1}{2}, 3$		124°	P 34x7°	P 34x7°	Her OX	4-4x5	25.6		G	Eis	A-I	D. B-L.	B-L 35 B-L 55	Blo	Wis 6600 Wis 1400A	R.	F	A	Shu	Ross.	Van	520
	$\frac{3\frac{1}{2}}{5,5\frac{1}{2}}$		158 151	S 36x5 S 36x6	S 36x10 S 40x14	Con 7T° Her G	6°-4½x5¼ 4-4¾x5¾	36 1	Zen	G	ABos° Eis	A-L	D. B-L.	B-L 60	Blo.	Wis 1800	R.	F	A A	Shu	Ross.	Van	640 890
United 100 U.S. U U.S. L, N U.S. 21, 20 U.S. 30, 31 U.S. 40 U.S. T	1	1850	138	P 34x5	P 34x5	Buda WTU. Buda HS°. Buda HS°. Buda EBU-I°	4-384x51/8	22.5	Str		A-L	A-L	D. B-L.	B-L 31	Blo.	Cla B-501	D	1/2. D	A	Shu	Han°	StM.	340
U.SL, N	11/2		148°	P 32x6°	P 34x7°	Buda HSo	6°-33/8×41/2	27.3	Str	V	A-I	A-L	D. B-L. D. B-L.		Blo.	Cla ID Tim 64660D	I.	D	A.	Shu	Han	Indo.	420
U.S	2		Opt 156°	S 36x4 S 36x5	S 36x7° S 36x10	Buda EBU-IS	4°-41/x51/	28 9	Str		A-L Spl	A-L	D. B-L.	B-L 51	Blo.	Ti' 65700SF	W.	½. ½. F.	B	Shu	Han°	Day	480 600
U.S40	4	4050	168°	S 36x6	S 36x12	Buda YBU-1	4-4½x6	32.4	Str	V	Spl	A-L	D. B-L.	B-L 55	Blo.	Ti' 66700SP	W.	F	B	Tim.	Han	Day.	790
U.ST	5½ 1½ 2½	4500	172°	S 36x6	DS40x6 P 32x6.75	Buda BTU	4-5x6½ 6-33x45%	40.0 24x4	Str		D-R	A-L D-R	D. B-L.	M.M. LU	Blo. M.M	Tim 68700S. Col 35000	W. B.	1/2. 1/2. F	B E	Shu	Han o Ross.	Smi	970 385
Velie Dispatch	216	1395	134 160	P32x6.75 P 32x6	DP32x6	Her OX	4-4x5	25.6	Zen.		A-L	A-L		Ful SU12	Spi	Wis 6600	R.	F	A		Han	Ind.	494
Valley	3		Opt	S 36x6	S 36x10	Her K	4-41/4x53/4	28.9	Str	V	D-R	D-R		Ful GU	Spi.	Wis	R	F	A	Shu	Ross.	Opt	634
Victor	11/4		131	P 30x5 S 34x4‡	P 30x5 S 34x7°	Her O Her OX°	4-4x5 4-4x5	25.6 25.6	Zen.	G.	A-L Eis	A-L		Cov JUC	Pic.	Col 54000 Wis	S R	120	V		Ross.	Smi.	300 450
Victor	21/2		142° 162°	S 36x41	S 36x8‡	Her K°	4-41/4×53/4	28.9	Zen.	G	Eis		D. Cov.	Cov	U-M	Wis	R	F	A		Ross.	Smi	580
Victor	31/2		160	S 36x5‡	S36x10	Her L	4-41/2x53/4	32.4	Zen.	V			D. Cov.	Co'RUP4C	U-M	Wis. 1450	R	F	A		Ross.	Smi	700
Victor90 WachusettS	51/2		164 152	S 36x7 S 34x5	S 36x14 S 34x5	Her G Con 8R	4-48/4x58/4 6-38/x41/2	36.1 27.3	Zen.	V	Eis	AB08	D. Cov.	Cov SB4 B-L 30	U-M. Spi	Wis 1700 Tim 5511	R	F	A		Ross.	Day Smi	850 330
WachusettJ	11/6		148	S 36x6	S 36x6	Con J4	4-33/4x5	22.5	Zen.	V	ABos	ABos	D. B-L.	B-L 35	Spi	Tim 64600D	W.	3/4		Tim	Ross.	Smi	330
Wachusett. J Wachusett. K Wachusett. L Walter FH	11/2		154		Dinio o	Con K4	4-41/8x51/4	27.2		V.			D. B-L. Own	B-L 35	Spi	Tim 6460	W.	F	E		Ross.	D	480
Walter FH	TT 216		Opt	P 40x8 S 36x5	DP40x8 S 36x10	Own 6 Con L4	6-4½x5¾ 4-4½x5¼	32.4	Zen.	V.	Apo ABos.	D-R ABos		Own B-L 55	Spi.	Tim 6560	W.	D	E	Own.	Ross.	Day Smi	850 520
Walter. FHR Ward La France 2D	TT		Opt	S 40x7	DS40x7	Own 6	4-4½x5½ 6-4½x5¾		. Zen.	V	Apo	ABos	Own	Own	Own	Own	R	D	E	Own.	Ross.	Day	1000
Ward La France2D	21/2		Opt	S 34x4	DS34x4‡	Wau V	4-4x5 4-43/8x53/4	25.6		V	Apo	A-L	D. B-L. D. B-L.		M.M. Spi.	Tim 65600E	W	F	A	Shu	Ross.	Hoo Day.	510 590
Ward La France2B Ward La France2B6	3		Opt.	S 36x5 P 36x6	DS36x5 DP36x6	Wau CU Wau 6KL	6-4x48/	30.6	Zen.	V.		A-L	D. B-L.		Spi.	Tim	W.	F	B	Shu	Ross.	Van.	980
Ward La France 4B	31/2		Opt	P 36x6 S 36x5	DS36x5	Wau DU	6-4x4 ³ / ₄ 4-4½x6 ¹ / ₄	32.4	Str	. G	Apo	A-L	D. B-L.	B-L 55	Spi.	Tim	W.	F	A	Tim	Ross.	Day	680
Ward La France4B6	31/2		Opt	P 34x7	DP34x7 DS40x7	Wau 6QLo	6°-4x5 ⁸ / ₄ 4-5x6 ¹ / ₄	38.4		· Q	RBos.	A-L	D. B-L.	B-L 55 B-L 60 Max	Spi.	Tim Spec	W.	F	B	Shu	Ross.	Van Day	700 790
Ward La France 5B	51/2	****	Opt.	S 36x6	DS40x7	Wau EU Wau GU	4-5x0%	46x2		G		A-Li	D. B-L	B-L 60 Max	Spi.	Tim Spec	W	F.	A	Tim.	Ross.	Day	950
Ward La France 7B Ward La France 5B6, 7B6	5, 5	ź	Opt	S 36x7°	DS40x8°	Wau 6AL	6-41/2x53/4	48.6	Zen.	V	RBos.	. A-Lt				Tim Spec	W.	F	B	Tim.	Ross.	Day	957
White	1	1545 2125	1331/2	P 30x5	P 30x5 DP34x5	Own GKA		22.5	Zen. Zen.	V	L-N		P. Own.	B-L 60 Max Own 15 Own 20A	Spi.	Own 15B Own 20A	S. R.	1/2.	Α	Own.	Own.	Own.	324 441
White 57 56	111/19	2	145½ 165°	S°36x41	S°36x7‡	Own GRC	4-3743578	22.5 25.6	Zen.	v.	2-24	L-Nt	P. Own.	OwnGRBB	Spi.	Own		1/2	Bo.	Own.	Own.	Own.	515
White	21/2	3750	170°	S 36x5‡	S 36x8‡	Own GRB	4-41/4×53/4	28.9	Zen.	. V		L-N		OwnGRBA		Own 51A	S	1/2.	B	Own.	Own.	Own.	625
White	31/2,	4770	. 174° 174°	S 36x6° S 36x61	S°40x12° DS40x6	Own GRB	4-41/4x53/4	28.9 28.9		177		L-N1	P. Own	OwnGRBA OwnGRBA	Spi.	Own	R	F	B	Own.	Own.	Own.	918
White 521	1 .1.1.	4700	129	S 36x51	DS40x5	Own GRB	4-41/x53/	28.9	Zen.	. V		L-N1	P. Own.	Own	Spi.	Own	R	F	B	Own.	Own.	Own.	812
White	51/2	5100		S 36x6	S 40x12	Own GRB	4-41/4x5%	28.9		. V		L-N1.	P. Own.		Spi.	Own	R.	F	B	Own.	Cwn.	Own.	918
White	TT	3800	134	S 36x5‡ P 30x5	S 36x8‡ P 30x5	Own GRB Own	4-414x534 6-218x378	28.9 20.7	Zen. Til	V	A-L	A-L	P. Own	Own	Spi.		S	1/2.	B	Own.	Own.	M.M	270
Witt-Will. NN	1 11/6	2575	144	S 34x31	S 34x6	Con S4	. 4-41/4×41/2	28.9	Zen.	. G	Eis	None	D. B-L.	B-L 35	Spi.	Tim 6462D.	. W.	1/2.	A	Tim .	Ross.	Arc	430
Witt-Will	2	2785	168°	S 34x4	S 34x7	Con S4	4-414x41/2	28.9	Zen. Zen.	G	Eis	None	D. B-L.	B-L 35 B-L 51	Spi.	Tim 6462D Tim	W	F.	A.	Tim.	Ross.	Arc.	460 570
			. 168° 156°	S 36x4‡ S 36x5	S 36x10° S 40x10	Con K4	4-41/8x51/4	27.2 32.4	Zen.		Eis	ABos	D. B-L. D. B-L.	B-L 51	Spi.	Tim	W	F	A	Tim.	Ross.	Arc Smi	775
Witt-Will A, AS Weeds 18B, 18BC Woods 31B4, 31B6	4,5,5	1	. 172°	S 36x6	DS40x7°	Con B5 Buda WTU.	4-4½x5½ 4-4¾x6	36.1	Zen.	G	Eis	. ABos	D. B-L.	B-L 60 Max	Spi.	Tim	W	F	A	Tim.	Ross.	Day	950
Woods 18B, 18BC	11/4		. 129°	P 30x5	P 32x6	Buda WTU.		22.5	Zen.	V	D-R.	D-R	D. B-L. D. B-L.	B-L 31 B-L 35	Spi.	Tim 5620	B	F	A	Shu.		Bim	320 420
Woods 36W4 51W4	9 91	6	. 154 160°	P 32x6 S 36x5°	P 34x7 S 36x10°	Buda HS-6°. Buda KBU-l	4-4x51/4	25.6	Zen.	v.	ABos.	D-R	D. B-L.	B-L 35	Spi.	Tim	W	F	A	Shu.		Bim °	570
Woods	3		. 160	S 36x5	S 36x10	Buda YTU.	. 4-41/2×6	32.4	Zen.	V	ABos.		D. B-L.	B-L 55	The.	Fim 65700L	W.	F	A	Shu.	Ross.	Bim	650
Yellow Cab	3/4	1295		P 30x5	P 30x5	Buick Std		23.4	Mar. Zen.	. V	D-R. ABos.	D-R N-E	D. B-L. D. B-L	Mun	Spi.	Tim 5515	B	1/2 1/2 1/2	B	Tim.	Ross.	Mot.	250 321
Yellow CoachX	216	****	150° 210	S 33x5 P 32x6	S 33x5 DP32x6	Con V4 Yell	$6-3\frac{1}{2}x4\frac{1}{2}$	22.5 29.3	Zen.	v	N-E	N-E	D. B-L.	B-L 755XX	Spi.	Tim 5610	B.	1/2	E.	Tim.	Ross.	Mot.	041
Yellow Coach	4	0	. 230	P 38x7	DP38x7	Yell	$6-4\frac{1}{2}x5\frac{1}{2}$	43.3	Zen.	V	N-E.	N-E		B-L811XX	Spi.	Tim 66210.	W	1/2		Tim.	Ross.		815
Yellow Knight T2	1	1095	124	P 30x5	P 32x6	Yel V	4-3-x5	18.9	Zen.	. G.	N-E.	. [N-E	IP. BAB	Mun T23.	Thei	Tim5310-21	.18 .	1/2	IA.	Him.	Gem.	Mot.	260

ABBREVIATIONS:

Wheelbase

*More than one wheelbase furnished.
Tires
B—Balloon.
P—Pneumatic.
DP—Dual pneumatics standard
equipment.
S—Solids.
DS—Dual Solids.
†—Pneumatics can be furnished
at extra cost.
Engine
Buda—Ruda Co.
Con—Continental Motor Corp.
Has—American Car & Foundry Co.
Her—Hercules Motor Corp.
Kni—Yellow Sleeve V. E. Wks.
Lyc—Lycoming Motor Corp.
Wau—Waukesha M. Co.
Wis—Wisconsin M. Mig. Co.
Yell—Yellow Sleeve V. E. Wks.
Fuel System
B.B.—Penberthy Injector Co.
Car—Carter Carburetor Co.
Car—Carter Carburetor Co.
Mar—Marvel Carbureter Co.
P—Pressure.
Sch—Wheeler Schebler Car. Co.
Ste—Detroit Lubricator Co.
Ste—Detroit Lubricator Co.
Ste—Detroit Lubricator Co.
Ste—Detroit Devices Co.
Til—Tillotson Mig. Co.
V—Vacuum.
Zen—Zenith—Detroit Corp.

-Vacuum. en-Zenith-Detroit Corp.

Zen—Zenith-Detroit Corp.
Electric System

:-Generator and Starter at Extra cost.

M.M.—Mechanics Machine Co.

Mun—Muncie Gear Works.
O—Disk in Oil.
P—Plate.
Rec—Rockford Drill. Machine Co.
We-G—Warner Gear Co.
Yell—Yellow Sleeve V. E. Wks.
Universal Machine Co.
Ble—Blood Bros. Machine Co.
Ble—Blood Bros. Machine Co.
M.M.—Mechanics Machine Co.
M.M.—Mechanics Machine Co.
M.E.—Merchant and Evans Co.
M.E.—Fick Mfg. Co.
Spi—Pick Mfg. Co.
Spi—Spicer Mfg. Co.
The—Thermoid Rubber Co.
The—Thermoid Rubber Co.
The—Hermoid Rubber Co.
U.P.—Universal Parts Co.
U.P.—Universal Products Co.
Frent and Rear Axles

14—Semi-Floating.
14—Three-quarter Floating.
B—Straight Bevel.
Cla—Clark Equip. Co.
Col—Columbia Axle Co.
Col—Columbia Axle Co.
Col—Columbia Axle Co.
Col—Columbia Axle Co.
Col—Columbia Columbia Columbia

m 00210. | W | ½2 | ... | Tim... | Ross. | Moš. | Moš. | W-Worm. | Wis-Wisconsin Parts Co. | Brake | A-Rear Wheel Only. | B-Driveshaft and Rear Wheels. | C-6 Wheel Brakes. | D-Jackshaft and Rear Wheels. | E-4 Wheels Brake. | Steering Gear | CAS-Columbus G & P Co. | D-G-Detroit Gear and Mach. Co. | Dod.-Dodge Bros. Co. | Gear-Gemmer Mfg. Co. | Jac-Saginaw Products Co. | Gear-Gemmer Mfg. Co. | Jac-Saginaw Products Co. | Ross-Ross Gear and Tool Co. | Wheels | Arc-Archibald Wheel Co. | Bet-Bethlehem Steel Co. | Bim-Binnel S. and A. Wheel Corp. | Cla-Claifornia Steel Wheel Co. | Day-Dayton Steel Foun. Co. | Day-Dayton Steel Foun. | Co. | Day-Dayton Steel Foun. | Co. | Jan-Phineas, Jones & Co. | Jan-Phineas, Jones & Co. | Jan-Phineas, Jones & Co. | Mot-Motor Wheel Corp. | M.M. | Michigan Malleable Iron Co. | Smiths Wars | Many |



Continental Gasoline

		GE	NE	RAL INFO	RMATION			ı	ENGI	NE					ECTR			TRA	NSMIS	SION				NING AR	
MAKE					Size Type		unt	Block			-	Fue Syste				6.1		Ge	arset			Bra	kes	Type	
AND MODEL	Tons Capacity	Wheelbase (In.)	Track (In.)	Front (m.m. or inches)	Rear (m.m. or inches)	No. of Cylinders Bore and Stroke	Valve Arrangement	Cyls. Cast in One	Camshaft Drive	Oiling System	Water Circulation	Carburetor Make	Fuel Feed	Current Source	Starter Fitted?	Generator Fitted?	Clutch Type		No. Fwd. Speeds Position of Lever	Universal Joints	Final Drive	Foot Type and Location	Hand Type and Location	Steering Gear Ty	Wheels Type
Donnet. Hurtu. Lafily. Lafily. Latil.	45355121512 12235512144 45355121512 122355123345571011233145 112224511222355144	161 163 132 150 185 166 168 168 111 110 113 114 114 116 116 116 116 116 116 116 116		\$1000x130\$ \$1000x130\$ \$1000x130\$ \$1000x130\$ \$1000x130\$ \$1000x130\$ \$1055x155\$ \$1955x155\$ \$1985x135\$ \$1985x135\$ \$1985x135\$ \$1995x135\$ \$1985x135\$ \$1025x185\$	\$970x160 \$970x160 \$1025x185d \$2836x135 \$2836x135 \$2836x135 \$2835x135d \$2855x135d \$2856x155d \$2850x140d \$2856x135 \$28	4-4. 33x5. 9 4-4. 33x5. 9 4-2. 95x4. 7 4-2. 99x5. 1 4-3. 54x5. 1 4-3. 34x5. 5 4-3. 34x5. 5 4-4. 12x5. 5 4-4. 12x5. 5 4-2. 95x5. 1 4-2. 35x4. 1 4-2. 75x4. 1 4-2. 95x5. 1 4-3. 34x5. 5 4-4. 13x5. 5 4-2. 95x5. 1 4-3. 34x5. 5 4-2. 95x4. 1 4-3. 34x5. 5 4-2. 95x4. 1 4-3. 34x5. 5 4-3. 35x6. 3 4-3.	0 L. 11 L. 1	4 4 2 2 4 4 4 4 4 2 2 4 4 4 4 4 4 4 4 4	Pin. Pin. Pin. Pin. Pin. Pin. Pin. Pin.	Pre. Pre. Pre. Pre. Pre. Pre. Pre. Pre.	The The Pulper P	Sol. Sol. Sol. Zen. Zen. Zen. Zen. Sol. Sol.	G G G V V V V V C G G G G G G G G G G G	M.M.M.M.M.M.M.M.M.M.M.M.M.M.M.M.M.M.M.	Opt Opt Opt Opt Opt Opt Opt Yes	Opt Opt Opt Opt Opt Opt Opt Opt Yes	MD.	Sep. Sep. Sep. Sep. Eng. Eng. Eng. Eng. Sep. Sep. Sep. Sep. Sep. Sep. Sep. Sep	4 4 R R C C C C C C C C C C C C C C C C	Met. Met. Met. Fab. Met. Fab. Met. Met. Met. Met. Met. Met. Met. Met	Sp. Ch. Wo. DR. DR. DR. DR. DR. DR. DR. Sp. Sp. Sp. DR. DR. Sp. Sp. DR. Sp. Sp. DR. Be. Be. Be. Be. Be. Be. Be. Be. Be. Be	R. T. T. FR. FR. FR. FR. FR. FR. FR. FR. FR. FR	RR.R.R.R.R.R.R.R.R.R.R.R.R.R.R.R.R.R.R	WS. WS. WWW. WWW. WS. WS. WS. WS. WS. WS	CS CS CS Disk.
Bovy Bovy Bovy Bovy Bovy 25 pas. Bovy 32 pas. Brossel Brossel Dasse Miesse Miesse	1 3	14 14 14 19 18 19 15 18 13 18	4 58 4 58 4 58 6 64 7 63 6 64 7 55 2 58 7 59	P32x6 P855x155 P910x210 P34x7 P32x6 P34x7 P855x155 P930x230 P855x155 P32x6 P855x155 P855x155	P32x6 P855x155d P910x210d P34x7d P32x6d P34x7d P855x155d P930x230d P855x155d P32x6d P855x155d	4-3.34x5.4 4-3.34x5.4 4-4.33x7.6 6-3.62x4.4 4-3.62x5.4 4-3.93x5.4 4-3.34x4.4 6-3.34x4.4 4-2.95x5.1	32 F. 32 F. 32 F. 38 F. 72 F. 31 F. 72 F. 90 L. 32 I. 33 L.	B]	Pin	Pre. Pre. Pre. Pre.	Th. Th. Th. Th. Th.		G G V V	. M . M . M . M . M . M . M .	Yes. Yes. Yes. Yes.	Yes. Yes. Yes. Yes. Yes.	Co Co Co MD	Sep. Sep. Sep. Sep. Sep. Sep. Sep. Eng. Eng. Eng.	4 C 4 C	Fab. Met Met Met Met Fab. Fab. Fab. Fab. Met	DR. DR. DR. DR. DR. DR. Wo.	FR.	FR. FR. FR. FR. FR. R R	SNSNSNSNWSWSWSWS	Disk.

Truck Chassis



	G	ENE	ERAL INFO	ORMATION				ENG	INE				E	LECTI SYST	RICAL EM		TR	NSMIS	SSION				INING EAR	;
MAKE				e Size d Type		1	Block				Fu Sys'						Ge	earset			Br	nkes		
AND MODEL Capecity	Wheelbace In		Front (m.m. or inches)	Rear (m.m. or inches)	No. of Cylinders Bore and Stroke	Valve Arrangement	Cyls. Cast in One Block	Camshaft Drive	Oiling System	Water Circulation	Carburetor Make	Fuel Feed	Current Source	Starter Fitted?	Generator Fitted?	Clutch Type	Location	No. Fwd. Speeds Position of Lever	Universal Joints	Final Drive	Foot Type and Location	Hand Type and Location	Steering Gear Type	Wheels Type
Aliesse. 234 Aliesse. 242 Aliesse. 334 Aliesse. 34 Aliesse. 7 Alinerva. 2 Alinerva. 3 Alinerva. Bus Alinerva. Bus Alinerva. 5 ipe. 242 ipe. 3 ipe. 5 ipe (tractor) 10 ipe (tractor) 20	18 18 16 20 14 16 18 17 21 17 16 17	57 57 57 57 57 69 03 78 45 65 69 69 85 69 75 66 70 66 70 66 70 66 85 63 71 67	P835x135 P835x135 P835x135 P855x155 P91025x185 P936x6 P36x6 P36x6 P36x6 P38x7 P40x8 P855x155 P1025x185 P1025x185 P1025x185	P855x155d P1025x185 P935x135d P36x6d P36x6d P36x6d P38x7d P40x8d	4-2.95x5.4-2.95x5.4-2.95x5.14x5.8-3.14x5.4-3.54x5.4-3.54x5.4-3.54x5.4-4.33x5.54-4.33x5.54-4.33x5.54-4.33x5.54-4.33x5.4-4.33x5.4-4.33x5.4-4.33x5.4-4.33x5.4-4.33x5.4-4.33x5.4-4.33x5.4-4.33x5.54-4.33x5.4-	11 I. 11 I. 12 I. 13 I. 14 I. 15 I. 16 I. 16 I. 17 I. 18	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Pin. Pin. Pin. Ch Ch Ch Ch Pin. Pin. Pin.	Pre. Pre. Pre. Pre. Pre. Pre. Pre. Pre.	Pu.	Zen Zen Zen Zen Zen Zen Zen Zen Zen	V V V V V V V G G G	M.	Yes Opt Opt	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Opt	MD	Eng. Eng. Eng. Eng. Eng. Eng. Eng. Eng.	4 C	Met. Met. Met. Fab. Fab. Fab. Fab. Fab.	DR. DR. Sp. Sp. Sp. DR. DR. DR. DR. DR. DR. DR. DR. DR. DR	FR. FR.	R	WS. WS. WS. CL. CL. CL. CL. WS. WS. WS. WS. WS. WS. WS. WS. WS. WS	Disk Disk Disk Disk Disk Disk Disk Disk
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		GE	NE	RAL INFO	RMATION			"F	ENGI	NE				EL	ECTR SYSTE	ICAL EM		TRA	NSMIS	SION				NING AR	
MAKE					Size Type		ant	One Block				Fue						Ge	nrset			Bra	kes	Type	
AND MODEL	Tons Capacity	Wheelbase (In.)	Track (In.)	Front (m.m. or inches)	Rear(m.m or inches)	No. of Cylinders Bore and Stroke	Valve Arrangement	Cyls. Cast in One	Camshaft Drive	Oiling System	Water Circulation	Carburetor Make	Fuel Feed	Current Source	Starter Fitted?	Generator Fitted?	Clutch Type	Location	No. Fwd. Speeds Position of Lever	Universal Joints	Final Drive	Foot Type and Location	Hand Type and Location	Steering Gear Ty	Wheels Type
*							GF	ERI	MA	N-	-Co	ont.													
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ABBREVIATIONS:

Ama—Ama.
B—Balloon. (Tires)
B—Battery.
Be—Bevel Gear.
C—Center (Gear]Lever).
C—Charcoal gas (Fuel Feed)
C—Cushion (Tires).
CA—Compressed Air.
Ch—Chain.
CL—Cam and lever.
Cla—Claudel.
Ce—Cone.
Coz—Cozette.
CS—Cast Steel.
d—Dual.
Dd—Dead.
DP—Dual Dry Plate.
DR—Double reduction

EG—External ring gear.
Eng—Unit with Engine.
E R—External Rear Wheels.
E T—External Transmission.
F---Fr Head.
Fab—Fabric.
F F—Pull Floating.
FR—Front and transmission.
FTF—Front, transmission and rear.
G—Gravity.
GE—Gas-Electric.
He—Helical Gears.
H.C.S.—Hollow Cast Steel.
HS—Hollow Spoke.
I—Valve in Head.
I.F—Internal Four Wheels.
IG—Internal ring gear.
I.R—Internal Rear Wheels.

I.T—Internal Transmission.

L—"L" Head.

M—Magneto (Current source).

May—Maybach.

mb—Magneto and Battery

MD—Multiple disc.

Met—Metal.

Opt—Optional.

Pal—Pallas.

Pin—Pinion

Pla—Planetary.

Pre—Full pressure.

PrS—Pressure to main and rod bearings.

P—Pneumatic (Tires).

P—Pressure (Fed).

PS—Splash with pressure

Pu—Pump.

R—Right (Gearshift lever).

R—Rear (Brakes),
Ren—Renault.
S—Solid.
SB—Spiral Bevel.
Sep—Separate Unit.
SI—Sleeve Valve.
SM—Serew and Nut.
SN—Serew and Nut.
SO—Spur Gear, Overhead Camshaft.
So—Spur Gear, Overhead Camshaft.
Sp—Spiral Bevel (Rear Axle).
Sp—Single plate.
Sp—Stering Wheel.
Th—Thermo Syphon.
T—Transmission.

TF—Transmission and Front.
TR—Transmission and Rear
Wheels.
Tract—Tractor.
TT—Torque tube.
TT—Tractor Truck.
V—Vacuum.
Var—Various.
WN—Worm and Nut.
We—Worm Drive.
WCS—Webbed Cast Steel.
WS—Worm and Sector.
WW—Worm and Wheel.
Zen—Zenith.
°—Other also.
†—With auxiliary magnetie,
*—Driver beside Engine.
§—All British trucks are 4-Cyl.
unless noted.



British Trucks



				GE	NEI	RAL						EN	GINE							TRA	NS	MIS	SION	ı	RE	AR A	XLE	MIS	CELLA	NEOU
				T		Tire	**		1	1				Fu			lectric System			Ge	arse	st						Brake & Lo	sType cation	
MAKE OF TRUCK	Load Capacity	Wheelbase (Ins.)		Irack (ins.)	Type	Front (Ins.)	Rear (Ins.)	§Bore and Stroke (Ins.)	Valve Arrangement	Cyl. C	1	Water Circulation	Oiling System	Carburetor	Fuel Feed			Starter Fitted?		Location	No.Forw'dSpeeds	Control Lever	Universals, Front	Universals, Rear	Type		Gear Ratio	Hand	Faet	Wheels Type
D, C. * D, C, C, C. * D, C, C. * D, C, C. * D, C,	31/4 5 6 11/4/2 3 4 4 11/2 2 2 11/4 2 2 2 11/4 2 2 2 11/4 2 2 11/4 2 2 2 11/4 2 2 2 11/4 2 1 11/4 2 2 11/4 2 2 11/4 2 2 11/4 2 2 11/4 2 2 11/4 2 2 11/4 2 11/4	15 15 15 15 15 15 15 15 15 15 15 15 15 1	20 30 30 30 30 30 30 30 30 30 3		A STATE OF THE STA	40x5)-40x61-	34x4d 36x6d 36x6d 26x3 42x44 32x6 26x3 42x44 32x6 32x6 33x7 23x76 33x7 23x6d 33x6d 33x6d 33x6d 33x6d 33x6d 33x6d 33x6d 33x6d 33x6d 33x7 33x6d 33x	4. 25x5.5 4. 72x5.9 4. 72x5.5 3. 90x5.0 3. 90x5.0 3. 90x5.0 3. 90x5.0 2. 95x5.1 3. 75x5.1 4. 00x5.7 3. 75x5.1 4. 00x5.7 3. 75x5.1 4. 72x5.5 4. 72x5.6 4. 72x5.6 4. 72x5.7 4. 7			1 Ch	Pu.	Spprcs Pross	Zen. Zen.	G.G.G.G.G.G.V.V.V.G.G.G.G.G.G.G.G.G.G.G	M. M	Ex Yes. Yes. Yes. Yes. Yes. Yes. Yes. Y	NO NO NO NO NO Yes. Yes. Yes. No No.	Co. Co. SP. SP. SP. SP. Co. Co. Co. Co. Co. Co. Co. Co. Co. Co	Sep. Sep. Sep. Sep. Sep. Sep. Eng. Sep. Sep. Eng. Sep. Sep. Sep. Sep. Sep. Sep. Sep. Sep	有有有有有有的有关的。	RRCCCCRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRR	Fab. Met. Met. Met. Met. Met. Met. Met. Met	Met. Met.	FREER FREE FEFFEFFFFFFFFFFFFFFFFFFFFFFF	Wo. Wo.	5.7.00 7.00 7.00 7.00 7.00 7.00 7.00 7.0	LRw. LRw.	. E. Tr I. Tr Tr I. T	H.C.S. H.C.S. H.C.S. H.C.S. H.C.S. H.C.S. H.C.S. W.C.S. W.C. W.C



American Agricultural Tractors



					GEN	IERA	L									EN	GINE						CLUTCH	BELT	PUL	LEY			DRI	VE	
MAKE AND MODEL	e (\$) acity:	No. of 14" Plows	(M. P. H.)	Weight Complete (Lbs.)	*Wheel Base (Ins.)	Minimum Turning Diameter (Ft.)	Ground Clearance (Ins.)	Drawbar Adjustable	Drawbar— Belt Rating	Steering Type	Make	No. of Cylinders	Bore and Stroke (Ins.)	Engine Type	Valve Arrangement	Normal R.P.M. at Plowing Speed	Ignition System Make	Carbureter Make 73	ped	Air Cleaner Make		Cooling System Type	TYPE AND MAKE	Diameter (Ins.)	Face (Ins.)	Clutch Type	No. Forw. Speeds	Diameter & Face Traction Members (Ins.)	Drive Type to Traction Members	Drive Taken by	Non-Drive Wheel
Iv. Rumely .R Iv. Rumely .R Iv. Rumely .R Iv. Rumely .S IisCh. 20-35. Work . GA Work . GA Work . DA Work . DA Work . DA Extra Work . DA Extra IisCh. 20-35. IisCh. 20-36. Iis	1295 4 150 10 600 3 3 4 2 2 5 6 5 4 150 10 600 3 6 1 2 6 5 7 1 1 2 6 1	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	500 500 500 500 500 500 500 500 500 500	11701 7948 16150 6500 8400 22000 22000 22000 22000 6500 6500 650	90 90 90 90 90 90 90 90 90 90 90 90 90 9	38 30 34 44 44 12 26 28 12 20 12 26 13 12 16 13 12 18 18 18 18 18 18 18 18 18 18 18 18 18	111/4 101 10 10 10 112 111/2 13 17 28 212 12 14 14 14 14 15 111/4 115 15 111/4 115 15 117 17 117 17 117 17 117 17 117 17 118 118 118 118 118 118 118 118 118 118	HHHHHHUVVVHHHHHHHHHHHHHHHHHHHHHHHHHHHH	25-45 20-35 20-35 20-35 22-40 30-60 20-35 22-40 45-65 25-35 30-40 20-30 21-20 25-30 30-40 21-20 25-30 30-40 20-30 21-20 30-40 20-30 21-20 30-40 21-20 30-40 20-30 30-40 21-20 30-40 20-30 30-40 20-30 30-40 21-20 30-40 21-20 30-40 21-20 30-40 21-20 30-40 21-20 30-40 21-20 30-40 21-20 30-40 21-20 30-40 21-20 30-40 21-20 30-40 21-20 30-40 21-20 30-40 21-20 30-40 21-20 30-40 21-20 30-40 30 30-40 30-40 30-40 30-40 30-40 30-40 30-40 30-40 30-40 30-40 30-40 30-40 30-40 30-40 30-40 30-40 30-40 30-40 30-40 30-	F.A.K. F.	Own. Own. Own. Own. Own. Own. Own. Own.	222244444444444441244444444444444444444	4½x6 5½x6¾ 4 x5½ 4 x5½ 4¾x6½ 6½x8½ 4 x5½ 4 x5½	HHHHHHHHHVVVVVVVVVVVVVVVVVVVVVVVVVVVVV		540 730 635 470 930 900 900 800 800 800 800 1000 1000 1000 1000 1000 1100 850 450 450 450 450 450 450 900 1000 850 850 1000 1000 1000 850 850 1000 1000 850 850 1000 1000 850 850 1000 1000 850 1000 1000 850 1000 1000 850 1000 1000 850 1000 10	Bosch. Eise. Dixie. Dixie. Dixie. Dixie. Rosch. Bosch. Eise. Eise. Rosch. Eise. Bosch. Bosch. Eise. Bosch. Bosch. Eise. Bosch. Bosch. Eise. Bosch. Eise. Bosch. Eise. Bosch. Bosch. Eise. Bosch. Eise. Dixie. Dixie. Dixie. Oixie. Eise. Eis	Own Own Own Kin. Kin. Kin. Kin. Kin. Kin. Kin. Kin	Ker. Ker. Ker. G-K. G-K. G-K. G-K. G-K. G-K. G-K. G-K	Don. Don. Don. Don. Ben. Ben. Own. Own. Own. Don. Don. Don. Don. Simp. Pom. Pom. Pom. Pom. Pom. Pom. Pom. Pom	MO. I I MO.	Puller Problem of the	SP-Own. SP-Own. SP-Own. SP-Own. MD-Own. SP-B&B. SP-B&B. SP-B&B. SP-B&B. SP-BBB. SP-BBB. SP-BBB. SP-BBB. SP-BBB. SP-BBB. SP-BBB. SP-BBB. SP-Own. SP-Own. SP-Own. SP-Own. SP-Own. SP-B&B. SP-B&B	2134 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	10 12 10 12 10 10 10 10 10 10 10 10 10 10 10 10 10	SP. SP. SP. SP. NO. MD MDD MDD MDD MDD MDD MDD MDD MDD MDD	5445658444668444558602154551	$\begin{array}{c} 73 - 4 \\ 48 - 12 \\ 8 - 12 \\ 44 - 24 \\ 44 - 24 \\ 40 - 4 \\ 40$	SG.	Hub. Hub. Hub. Hub. Hub. Hub. Hub. Hub.	222222222222222222222222222222222222222

ABBREVIATIONS:

"—Others Used

—Average
ABos—American Bosch
A-K—Atwater Kent
A&R—Axle & Rim
Beav—Beaver
Ben—Bennett
B&B—Borg & Beck
B-L—Brown-Lipe
B&S—Briggs and Stratton
Berl—Berling

BW—Beveled Gear & Worm Gear CB—Contracting Band Ch.G—Chain and Gear Cha—Chain Clim—Climax Co—Cone Cov—Covert CS—Circulating Splash Don—Donaldson Eise—Eisemann Ens—Ensign ES—Expanding Shoe

F—F Head Engine
F—AK.—Front Axle Knuckle
FD—Fixing Drum
Frie—Friction
Frie—Friction
Ful—Fuller
G-K—Gasoline
H—Horizontal
H.B—Handle Bars
HC—Hollow Crankshaft
Her—Hercules
Hol—Holley
I—In Head

IG—Internal Gear
JC—Jaw Clutch
Ker—Kerosene
Kin—Kingston
Kok—Kokomo
L—'L' Head
MD—Multiple Dry Disc
Mix—Mix with Oil
MO—Multiple Disc in Oil
MO—Multiple Disc in Oil
MO—Multiple Oise in Oil
MC—Multiple Oise in Oil
MC—Multiple Oise in Oil
MC—Multiple Oise in Oil
MO—Multiple Oil
MO—Multiple Oise in Oil
MO—Multiple Oise in Oil
MO—Multiple Oil
MO—Multiple Oise in Oil
MO—Multiple Oise in Oil
MO—Multiple Oise in Oil
MO—Multiple Oise in Oil
MO—Multiple Oil
MO—Multip

NW—New Way
Opt—Optional
Par—Paragon
Pom—Pomona
Pre—Pressure
Pro—Protectomotor
Pu—Pump
RBos—Robert Boech
S—Sleeve
S.A.—Swinging Axle
SB—Spur Gear and Beveled
Gear
Sch—Schebler

SG—Spur Gear
SI—Spur and Internal Gear
SI—Spur and Internal Gear
SI—Spur and Internal Gear
SI—Spur and Internal Gear
SI—Spur Simples
Sp—Special
U
SP—Simple Plate
Split—Splitdorf
W
Spit—Splitdorf
Siea—Stearns
Sir—Stromberg
SW—Spur and Worm Gear
TDi—Twin Disc
Members

Z

The Thermo-Siphon
Til - Thermo-Siphon
Til - Tillotaon
Tr-Track
U--Universally
Unit-United
V--Vertical
Wauk-- Waukesha
W-B--Wilcox
Bennets
WC--Worm and Chain
Wh--Wheel
Wil--Wilcox
Wisc--Wisconsin
Wo--Worm
Zan--Zentth



American Garden Tractors_



				GE	NERAL									ENGI	NE				Clutch	Belt	Pulley			TRANS	MISSI	ON	
MAKE AND MODEL	Price	Operator's Position	Type of Steering	Size Plow Recommended (Ins.)	Plowing or Cultivating Speed (M.P.H.)	Weight (Lbs.)	Ground Clearance (Ins.)	Drawbar Adjustable?	Drawbar-Belt Rating (Hp.)	Make	Number of Cylinders	Bore and Stroke (Ins.)	Valve Arrangement	Wake Wake	Carburetor Make and Size (Ins.)	Make of Air Cleaner	Type of System 9	Cooling Circulation by	Туре	R.P.M.	Diameter and Face (Ins.)	Туре	of Forw	Drive from Engine or Gearset to Driving Wheels	Final Drive	No. Driving Wheels	Diameter and Face Driving Wheels (Ins.)
Centaur 1925F Centaur 1926-76 Federal . A G-H-N. Gro-Mor . 1928 Kinkade. Red E (Lawn Mower) . A Red E 1927 Shaw T-25 Sprywheel . DC Standard	265 233 345 484 195 175 190 190 272 200 125 242 345	Walk Walk Walk Walk Walk Walk Ride. Ride. Walk Walk Walk Walk Walk Walk Walk Walk	H-B H-B H-B	None 7-8 7 4 6 1-9	34-3 3- 3- 3- 21/2- 2- 1-3 21/2 34-23/4 11/2-3 11/2-21/2	320 345 400 392 404 400 1200 1240 250 275 210 180	73/4 14 17 20 20 20 11 13 14 91/2 11 151/2 9 11 101/2 11	H H H No V No V No U V V V V V V V	2½-5 1½-5 1½-3 1½-3 1½-2 1½-2	B&S. B&S. B&S. B&S. B&S. CROSS B&	111111111111111111111111111111111111111	21/5x2/5 3/5x4/5 21/5x2/5 21/5x2/5 21/5x2/5 21/5x2/5 21/5x2/5 3/5x4/5 21/5x2/5 21/5x2/5 3-3 21/5x2/5 21/5x2/5 21/5x2/5 3-3 3-5x5 3-5x5	L.F.F.F.T.L.L.L.L.L.L.L.L.L.L.L.L.L.L.L.	Own Own Own Own B&S Eise Own Own Berl B&S ABos	TilZenithZenithZenithOwnOwn-½TilSch-½	Don Don Own Own Own Own No Own B&S Pro.	CS CS Pre CS Mix Spash CS CS	Air Air Air Air Air Air Air	Cone. Cone. M.D. SP Jaw M.D. Jaw	250 250 2200 850 1500 0 1000 1750 1200	2-2 3-31/4 51/-2	Direct Direct SI.G SI.G JC JC JC JC JC	1 1 1 V. 1 1 1	Chain.	Axle	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	30-3 25-3½ 18-3 18-3 18-3 18-3 20-6 28-4 20-3 20-3 22-5¼ 11-2½ 24-4 26-22 20-3½ 26-22 20-3½ 26-22 24¾ 4-4 24¾ 4-4 24¾ 4-4

For list of abbreviations see bottom of previous page.



American Electric Trucks_



	T	Chari	Wheel	TII TYPE A	RES, ND SIZE		MOTORS			CONTRO	LLER		DRI	VE		Distance from Ground		EED P.H.)
MAKE AND MODEL	Tons Capa- city	Chassis Price Without Battery	Base	Frent (Ins.)	Rear, (Ins.)	Location	Make	Num- ber	Total Horse Power	Lecation	Number of Forward Speeds	First Reduc- tion	Final Drive	Total Gear Reduc- tion	Type of Axle or Jack- shaft	to Top of Frame at Dash (Ins.)	Load- ed	Ligh
C-T Electric H-1 C-T Electric F-5 C-T Electric F-5 C-T Electric F-5 C-T Electric F-4 C-T Electric F-4 C-T Electric F-4 C-T Electric F-7 C-T Electric F-7 C-T Electric A-7 C-T Electric A-10 C-T Electric A-10 C-T Electric F-10 C-T	31/2 31/2 31/2 5 5 7 1	\$1850 2475 2475 2675 3250 3500 4300 5150 5450 6000 2500 6000 2500 6000 2000 2500 3500 3500	108 116 94 96 124 116 122 132 152 152 152 152 112 135 168 108 124 133 146	S-36x3 S-36x3 S-36x3 S-36x3 S-36x4 S-36x4 S-36x5 S-36x7 S-36x7 S-36x7 S-36x7 S-36x7 S-36x7 S-36x7 S-36x7 S-36x7 S-36x6 S-36x8 S-	S-36x4 S-36x4 S-36x4 S-36x5 S-36x5 S-36x7 S-36x8 S-36x5d S-36x7d S-34x5 S-34x5 S-36x6d	Unit with R A. Sep Unit. Sep Unit.	G E G E G E G E G E G E G E G E	22222222442222221111	3\\\2\\2\\3\\2\\2\\3\\2\\3\\2\\3\\2\\3\\2\\3\\2\\3\\2\\3\\2\\3\\3	Steer C. Under F.	4 4 4 4 4 4 4 4 4 4 4 5 4 4 5 5 5 5 5	Spur Spur Spur Spur Spur Spur Spur Spur		11.5 11.5 11.5 11.5 12.1 12.1 17.5 17.3 20.1 20.5 6.0 6.0 6.37 9.75 13.0	Flo. Flo. Flo. Flo. Flo. Flo. Flo. Flo.	331/4 333 323/4 323/2 333 351/4 361/2 381/8 383/8 37 38 35 37 38 37 38 37 38 37 38 37 38 39 39 39 39 39 39 39 39 39 39 39 39 39	13 13 12 12 10 9 9 9 8 8 6 18 18 18 15 14 12 10	14 14 14 14 14 12 11 11 10 10 8 Var. Var. Var.
O. B	31/2	2650 3750 3950	107 135 143	S-36x4 S-36x5 S-36x6	S-36x3½d S-36x4d S-36x5d	Unit with J S Unit with J S Unit with J S	G E G E	1 1 1		Under S Under S Under S	Var Var	S-Cha S-Cha	S-Cha R-Cha S-Cha		Dead Dead		13 10 10	15 11 11
Walker. 20 Walker. 25 Walker. 10 Walker. 45 Walker. 66 Walker. 73 Ward. A211 Ward. B-23 Ward. C-22 Ward. C-23 Ward. J-233 Ward. J-233 Ward. M-233 Ward. M-233	1-13/ 2-21/2- 31-4/ 5-7 1/2- 31-4/ 5-6	1	94 101 108) 124) 114 126 131 141 88 91 96 114 128 160 160	S-34x3½ S-34x4 S-32x3½ P-30x5 S-36x4 S-36x5 S-36x5 S-36x6 S+-32x3 S-32x3½ S-32x3½ S-32x3½ S-34x5 S-36x5 S-36x5 S-36x6 S-36x7	S-36x4 S-36x5 S-32x4 P-30x5 S-36x6 S-36x5 S-40x6d S-40x6d S+32x3½ S-34x5 S-36x7 S-36x8 S-36x10 S-36x14	Unit with R A. Unit with D S.	West West G E G E G E** G E** G E** G E** G E** G E**	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3 4 4.2 5 6 8	Under S. Under F.	554 5555 544 44555	None None None None None None None None None None None	Spur Spur Spur Spur Spur Spur Spur Spur	13.8 14.6 14.6 14.6 14.6 17.0 15.67	Flo. Flo. Flo. Flo. Flo. Flo. Flo. Flo.	34 34 27 35 35 39 28 30 31 32 33 35 37	Var Var Var Var Var Var Var Var Var Var	Var. Var. Var. Var. Var. Var. Var. Var.

ABBREVIATIONS:

*-1927 Specifications:

*-1927 Specifications.

**-And Westinghouse.

†-Pneumatics optional.

Back S—Back of Seat.

d—Dual.

½ F—Semi-Floating.

34 Flo-34 Floating
Flo—Full Floating.
G. E.—General Electric.
On F & R Axles—On Front and Rear
Axles.
P—Pneumatic.
R-Cha—Roller Chain.

S—Solid.
S-Cha—Silent Chain.
Sep Unit—Separate Unit.
Steer C—Steering Column.
Under F—Under floor board.
Under S—Under Seat.
Unit with D S—Unit with Drive
Shaft.

Unit with J S-Unit with Jack-

shaft.
Unit with R A—Unit with Rear
Axle.
Var—Varies according to make and
capacity of battery employed.
West—Westinghouse.



American

						1	ENGINE	E						IGNITI	ON AN	ND LIGHT	ring s	YSTEN	Λ
		ers-		.C.)	Ę	at .	_		Carburet	er	Oiling	g Syste	m		Ig	nition		Lightin	4
MAKE AND MODEL	Туре	Number of Cylinders— Bore and Stroke (Ins.)	Cycle	Rated H.P. (N.A.C.C.)	R.P.M. at Maximum Brake H.P.	Piston Displacement (Cu. Ins.)	Valve Arrangement	Piston Material	Make	Size (Ins.)	Туре	Pump Type	Lubricant Type	Type	Current Source	Make	Stock or Optional	Type	Make
ce. SF leveland JS mblem. 106 vans Rewer Cycle. G xcelsigr Super Sport. X tarley-Davidson. 28B larley-Davidson. 28B larley-Davidson. 28BA larley-Davidson. 102BA larley-Davidson. JXL larley-Davidson. JXL larley-Davidson. JXL larley-Davidson. JDXL larley-Davidson. JDXL larley-Davidson. JDH larley-Davidson. JDH larley-Davidson. JBH larley-Davidson. JBH larley-Davidson. JH larley-Davidson. JCB- lenderson. DeLuxe ddian. "GEP-28" Scout ndian. "HEP" BigChief ndian. "HEP" BigChief ndian. "HEP" BigChief ndian. "HEP" BigChief ndian. "E28" Prince	Vert. Vert. Vert. Vert. Vert. Vee. Vee. Vee. Vee. Vee. Vee. Vee. Ve	2-3-x31/2	444444444444444444444444444444444444444	12.10 10.00 5.51 7.20 7.20 7.20 3.31 8.76 8.76 9.45 9.45 11.56 6.05 6.61 7.81 8.30 2.30	22-3800 24-4000 24-4000 25-4000 5-1800 1.5-3000 1.5-3400 15-3400 12-3800 19-3800 19-3800 21-3800 24-4900 27-3400 15.9-3800 15.9-	77.2 61.0 50.0 5.5 45.5 45.5 21.1 21.1 60.3 60.3 74.0 61.0 74.0 79.4	Si by Si Si by Si Si by Si Si by Si	Alum A. Cast I Cast I Cast I Cast I Alum A. Alum A. Mn A. Alum A. Alum A. Mn A. Mn A. Mn A. Mn A. Mn A. Cast I	Schebler Schebler	11/8 1 8/4 5/8 1 11/4 11/4 11/4	F Press. Splash. Press. Splash.	Gear. Gear. Gear. None. Pist.	00. 00. 00. 00. 00. 00. 00. 00. 00. 00.	Ge&Ig SeU. Ge&Ig SeU. Ign Syst only Ge&Ig Comb Ge&Ig Comb Ge&Ig Comb. Ign Syst only.	Mag. Bat. Mag. Mag. Mag. Bat. Bat. Bat. Bat. Bat. Bat. Mag. Mag. Mag. Mag. Mag. Mag. Mag. Mag	Split. RBosch. Eric. Bosh. Split. Split. Own. Own. Own. Own. Own. Own. Own. Own	Stk Stk Stk Stk	Ele Opt Ele Ele Ele Ele Ele	Split Split Split Any Bose Split Split Own Own Own Own Own Split

ABBREVIATIONS:

Alum A—Aluminum Alloy.
Bat—Battery.
Brown & B—Brown & Barlow.
Cast I—Cast Iron.
Chann—Channel Steel.

Diam—Diamond.
D Loop—Double Loop.
Dry D—Dry Disk.
Eisem—Eisemann.
Ele—Electric.
Eric—Ericsson.
Ext—External

E-R—External Rear.
F Press—Full pressure.
Fric—Friction.
Ge & Ig Comb—Generator and Ignition Units Combined.
Ge & Ig Se U—Generator and Ignition Separate Units.

G en HB—Grip on Handle Bars.
HS—Helical Spring,
Hand L—Hand Lever.
I-F—Internal Front.
Ign Syst enly—Ignition System
only.
Int—Internal.



American

		GEN	NERAL												EN	IGII	NE								=
MAKE		(Inia.)	3	Cab	odel	ers, oke		cement	Ratio		7	.s		Valve		=	Oiling S	ystem	tion	Fuel Sys	item	El	ectrical	System	_
MODEL		lbase (I	ize (Im	with	M pue	Cylinder ind Strok	H. P.	Displa	ession	ension	er Hea	er Cast	gement	Ma-		Mater	o o	Туре	Circul	reter	pee	Igniti	L	ator	
	Price	Wheel	Tire S	Weight (Lbs.)	Make	No. of Bore a (Ins.)	Rated (N.A.C	Piston (Cu. In	Compr	Susp	Cylind	Number One Pie	Arrang	Head	Drive	Piston	Pressu	Pump	Water	Carbun	Fuel F	Make	Curren	General Stand Stan	Volta
§§Driggs	2400 2350 2450	1165/8 112 112 114 122	30x3½ 32x6.20 30x5 33x4½	2200 4180 4150 3400 4175 4600	Buda WTU Own Buda WTU Buda WTU BudaWU Own S Buick Std.6 Cont 18U	4-3 ¹ / ₄ x4 ¹ / ₂ 4-3 ⁸ / ₄ x5 ¹ / ₈ 4-3 ⁸ / ₄ x5 ¹ / ₈ 4-3 ¹ / ₄ x5 6-3 ¹ / ₈ x4 ¹ / ₂	16.90 22.50 22.50 22.50 18.90 23.4	226.4	4.10 4.10 4.10 4.8	3 D 3 D 3 II 4 D	et et	4 4 4 4 6	L	CI Ast	Heli	SS	abab	Gear Gear Gear Gear	Pump Pump ThS	Zenith Zenith Zenith Zenith Marvel	Gra Vac Gra Gra Vac	ABos	M BM M B B	ABos D-R ABos † Dyne‡. N-E Delco	6-8 6-8 6-8 6-8 6-8 6-8 6-8

- ABBREVIATIONS:

 "—At extra cost.
 "—Others furnished..
 \$\frac{1}{2}\]
 1927 specifications.
 \$\frac{1}{2}\]
 Exhaust valve only.
 \$\frac{1}{2}\]
 Starter at extra cost.
 \$\frac{1}{2}\]
 Main Bearings

 A—Artillery

- A-Bos—American Bosch
 Al—Aluminum
 Ast—Alloy Stoel
 b—Connecting Rods
 B—Battery
 B-L—Brown-Lipe
 B&B—Borg & Beck
 BM—Battery & Magneto

- c—Camshaft Bearings
 C&L—Cam and Lever
 Cha—Chain
 Cl—Cast Iron
 Col—Columbia
 Cont—Continental
 CR—Central Reservoir
 d—Wrist Pins
 D—Disk

- Det—Detachable
 Det—Detroit
 D-R—Deleo-Remy
 Dyne—Dyneto
 e—Gear Case
 Ecc—Eccentric
 Eng—Unit with Engine
 E-P—Electric Pump
 Ext-Ds—External Drive Shaft
- Ext-Fw—External Four Wheels
 Ext-Rw—External Rear Wheel
 [—Fabric
 f—(Oiling System)—Rocker Arm
 3/4 F—3/4 Floating
 3/2 F—1/2 Floating
 Gra—Gravity
 F F—Full Floating
 Gem—Gemmer

Motorcycles



		7	RA	NS	M I	SSI	0 N					Wi	HEELS	AND	FRAN	ME		M	ISCE	LLAN	NEOU	JS	Weig	ghts	Pri	tes	
Cli	utch	Gear	set	¿Pa	187		Gear	Ratios								Bra	kes	beed	Capac-		bore	sar-	pa	3	1		
Type	Controlled by		Number of For- ward Speeds	Reverse Gear Fitted?	Rear Wheel Sprung?	Engine to Gearset	Low	Second	Third	Final Drive Type	Wheelbase (Ins.)	Tire S ze (Ins.)	Frame Type	Front Spring Type	Starting System	Foot	Hand	Hig	Gals.)	Oil Tank Capacity (Qts.)	Height of Saddle Above Ground (Ins.)	Minimum Road Clear- ance (Ins.)	Electrically Equipped (Lbs.)	Not Equipped (Lbs.)	Equipped	Not Equipped	MAKE AND MODEL
Oil D. Ory D Oil D	P&GH. None Pedal	Prog.	ත හ න 🗕 හ හ න න න න න න න න න න න න න න	No No	No	2.56 2.56 2.42 2.30 2.59 2.75 2.59 2.55 2.55 2.55 2.55 2.55 2.43	8.00 10.10 12.00 13.48 14.84 9.70 9.16 8.62 9.17 12.00 11.97 10.78 11.97 11.43 16.02 9.71	5.00 No 8.00 8.98 9.15 6.47 6.10 5.75 6.32 7.30 7.62 7.62 7.27 8.90 7.84	10.5 3.00 No 5.00 5.00 5.99 5.69 4.07 3.83 4.07 3.83 4.21 4.50 4.85 4.66 6.05 4.12	Chain. Chain. Chain. Chain. Chain. Chain. Chain. Chain. Chain. Chain. Chain. Chain.	56 59 52 49 56 56 55 55 55 60 60 60 60 60 60 60 60 60 60 54 54 56 54 56 55 55 55	27x3½ 27x3,8 27x3,8 25x2½ 26x2 25x3,8 26x3,8 26x3,8 26x3,8 25x3,8 25x3,8 25x3,8 27	Diam. Diam. Diam. Dioop. Loop. DLoop Loop. BLoop DLoop Chann	HS HS HS HS HS HS HS HS LS LS LS LS LS LS LS HS	Kiek. Kiek. Kiek. Kiek. Kiek. Kiek. Kiek. Kiek. Kiek. Kiek. Kiek. Kiek. Kiek. Kiek. Kiek. Kiek.	Ext. Ext. Ext. Ext. Ext. Ext. E-R. E-R. Ext. Ext. Ext. Ext. Ext. Ext. Ext. Ext	Ext Int None None None None I-F I-F Int Int Int Int Int None None None None None	85 85 50 30 65 90 55 65 68 73 80 78 85 75 75	31/8	3 3 3 3 4 4 4 4 4 3 0 3 0 3 0 2 1/2	2614 2614 27 29 30 26 26 26 26 26 26 27 27 28 29 5 29 5 29 5 29 5 29 29 29 20 20 20 20 20 20 20 20 20 20 20 20 20	5 43/4 43/4 5 5 51/4	395 350 220 72 320 320 287 291 415 411 416 424 408 346 360 406 406 407 407 408 393 393 393 393 407 407 407 407 407 407 407 407 407 407	2100 2900 2900 2900 375	120.00 310.00	200.00 275.00 315.00	Ace. Ace. Cleveland Ewans Power Cycle. Excelsior Super Sport. Harley-Davidson. 2: Harley-Davidson. 2: Harley-Davidson. 3: Harley-Davidson. JD Harley-Davidson. JI Harley-Davidson. JO Harl

Keyst—Keystone.
LS—Leaf Spring.
Mag—Magneto.
Mn A—Manganese Alloy.
O G—Mix Oil with Gasoline.
Oh I Si E—Overhead Inlet, Side Exhaust.

Oil D—Oil Disk.
O O—Oil Only.
Opt—Optional.
P & G H—Pedal and Grip on Handle Bars.
P & H L—Pedal and Hand Lever.
Pist—Piston.

Press—Pressure.
Prog—Progessive Sliding.
RBosch—Robert Bosch.
Si by Si—Side by Side.
Split—Splitdorf.
Sp Pr—Splash with Pressure.
Stk—Stock Equipment.

Vert—Vertical.

*-Optional at extra cost.

*-Operated by Heel.

**-Aluminum piston at extra cost.

†-Crank Case capacity.

‡-Foot Internal Brake at extra cost.

Taxicabs

an

and Starter Make Voltage

Bos... R... Bos... vne‡.. E... kleo... R...

r Arm



				T R	ANSM	ISSI	0 N									RU	NNING	GEAR					
Cl	utch		Gearset		Universa	l Joints			Rear	Azle			В	rakes		ike	Stee	ring Gear	ation				MAKE
			ion	f For- Speeds	ber and				Drive	Ratio	alsion n By	n By	Type an	d Location)	kles Type	Axle Mak			is Lubric	th of Real	els, Type	e Make	AND MODEL
Make	Туре	Make	Locat	No. o	Num	Туре	Make	Type	Final	Gear	Propi	Torq	Foot	Hand	Shac	Fron	Mak	Туре	Chan	Length	When	Fram	
Fuller	M D D	Fuller. Fuller. Det Fuller.	Eng	3	2-Spicer. 2-Spicer. 2-Pick.	m m f	Col Own Sal Col Sta	34 F 1/2 F 34 F	S B S B	5.1 4.50	Sp	Sp Sp	Ext-Rw Ext-Fw	Ext-Ds	m	Sal	Lav Ross.	W & W	P G.	561/8	Ċ.	Own Mid	§§Bauer §§Driggs Gotfredson 24 T Premier 4F Rauch & Lang T
B-L. Buick.	M D D M D D	B-L Mun	Eng	3	1-Spicer. 1-Spicer. 1-Spicer.	m	Tim	1/2 F		°4.9	Sp	Sp	Ext-Rw Ext-Fw		r	Tim	Ross.	C& L	P G	5634	D	P&B Mid	Yellow 05 Yellow 06 Yellow D10

Heli—Helical Gear
Hyd—Hydraulic
I—In Head
Int—Integral
Int-Rw—Internal Rear Wheel
L—Both Valves at Side
Law—Lavine
Law—Lavine
Lyc—Lycoming
M—Magneto

m—Metal
Mech—Mechanice Machine Co.
MDD—Multiple Dry Disc
MDO—Multiple Disc in Oil
Mid—Midland
Mun—Muncie
N-E—North East
O—Optional
P&B—Parish & Bingham

P G—Pressure Gun
r—Rubber
RBss—Robert Boech
S—Sileove Type
Sal—Salisbury
S B—Spiral Bevel
Sil—Sileon Chromium
S&N—Serew and Nut

Sp—Springs
Spl—Splash
SpP—Splash with Pressure
S P—Single Plate
S S—Semi Steel
Sta—Standard
Th S—Thermo Siphon
Tim—Timken

TT—Torque Tube
Vac—Vaceum
WarG—Warner Gear
Wauk—Waukceba
West—Westinghouse
W&G—Worm and Gear
W&N—Worm and Nut
W&S—Worm and Sector
W&W—Worm and Wbeel



American Stock

				(ns.)		E CYL	IN- RS	CRA	NKCA	SE		VAL	VES		FRO END I				PISTO	NS		
MAKE	er Cylinders, Bore (Ins.)	.C.C.)	En a	nent (Cu. Ins.)	tio	Suspension	Piece	Upper	Half	Half)			(Ins.)			Gear			s) Ozs.	Piston P	ins	s ner
MODEL	Designed Fer Number of Cylin and Stroke (Ins.	Rated H.P. (N.A.C.C.)	R.P.M. at Maximum Brake H.P.	Piston Displacement	.8	Number of Point Head	No. Cast in One	Integral with Cylinders?	Material	Material (Lower	Arrangement	Head Material	Clear Diameter	Lift (Ins.)	Type	Non-Metallic Ge Used On?	Material	Length (Ins.)	Weight (with Pins. Rings & Bushings)	Diameter and Length (Ins.)	Pin Bearing In	Number of Rines
tematic	T & Tr. 4 - 7/2x9 T & Tr. 4 - 8/2x10 Tractors. 6&4 - 43/x6 Tractors. 4 - 43/x6 Tractors. 4 - 43/x6 Tractors. 6&4 - 6-8/x Tractors. 4 - 43/x5/x Buses. 6 - 43/x5/x Buses. 6 - 43/x5/x Buses. 6 - 4 - 41/x5/x Buses. 6 - 7 - 4 - 41/x5/x Buses. 6 - 7 - 6-8/x7/x Grant. 6 - 8/x7/x Grant. 7 - 6-8/x7/x Grant. 7 - 6-8/x Gran	54.15.6.6.2 54.00.0 54.14.15.6.6.2 55.6.6.0 55.6.5.0 56.7.60 57.60 58.6.5.0 58.6.5.0 58.6.5.0 58.6.5.0 58.6.5.0 58.6.5.0 58.6.5.0 58.6.5.0 58.6	75-540 100-540 100-540 162-1000 46-1200 44-1100 83°-1000 37-1850 43-1800 48-1850 43-1800 48-1850 37-1550 60-1700 135-1200 135-1000 140-120	425.3 381.7.727.0° 381.7.727.0° 381.7.727.0° 3727.0° 381.7.727.0° 381.7.130.131.130.141130.14	4.0 4.0 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5	4 Det 4 Det 3, 4 Det 3 Det 4 Det 4 Det 6 D	222644444446662264622444223333333333333	Sep. Sep.	Iron.	Iron. Al. Iron. Iron. Al. Iron.		Sil. Sil. Sil. Sil. Sil. Sil. Sil. Sil.	3.00 2.00 2.00 2.56 2.50 1.87 1.87 1.87 1.2.82 2.50 1.87 1.87 1.87 1.87 1.87 1.87 1.87 1.87	28† 28† 28† 28† 31† 31† 311 311 311 311 311 311 311 31	Heli Heli	None.	CI C	9.00 10.50 112.31 5.31 5.31 5.31 5.35 6.56 6.56 6.56 6.25 4.50 5.07 5.37 6.25 6.75 6.37 6.25 6.75 6.37 6.25 6.77 6.25 6.77 6.25 6.77 6.25 6.77 6.25 6.77 6.25 6.77 6.25 6.77 6.25 6.77 6.25 6.77 6.25 6.77 6.25 6.77 6.25 6.77 6.25 6.77 6.76 6.11 6.11 6.11 6.11 6.11 6.11	356.0 92.0 118.0 1	7 . 75x2 . 75 1 . 37x3 . 75 5 1 . 50x4 . 44 5 1 . 50x3 . 75 6 1 . 50x3 . 75 6 1 . 12x3 . 22 1 . 12x3 . 21 1 . 12x3 . 21 2 1 . 50x3 . 50 1 . 12x3 . 31 2 1 . 25x3 . 6 1 . 25x3 . 5 1 . 25x3 . 5 1 . 25x3 . 5 6 . 86x2 . 5 7 . 50x2 . 4 1 . 25x3 . 5 1 . 25x3 . 5 1 . 25x3 . 5 1 . 25x3 . 5 1 . 25x3 . 3 1 . 25x3	Flo. Flo.	

ABBREVIATIONS:
a—Main Bearings.
Accx—Accessories Drive.
Al—Aluminum Alloy.
Als—Aluminum Steel with Strut.
ASt—Alloy Steel.
b—Connecting Rod Bearings.
B—Buses.

Ball—Ball Bearing.
c—Camshaft Bearings.
C—Cars.
Car—Carbon Steel.
Cam—Camshaft.
Cent—Centrifugal.
ChVa—Chrome Vanadium.
C&H—Chain and Helical Gear.

Crac—Crankshaft and Accessories.
ChN—Chrome Nickel Steel.
Chr—Chromium Steel.
Cl—Cast Iron.
Cran—Crankshaft.
d—Wrist Pins.
Det—Detachable.

Dur—Duralumin.

e—(Oiling System)—Timing Gear Case.

e—Exhaust.

fce—Eccentric.

f—Rocker Arm.

Fle—Floating.

Heli—Helical.

I—Both valves in head.

Engines



CON	NECT RODS	ING			CI	RANKSHA	FT			OILI SYST		WAT	ER ATION	GO	VERNO	OR	1	MISC	ELLAN	EOU	IS			
Material	Center to Center Length (Ins.)	Weight (with Bush- ings and Cap) Ozs.	Material	Offset (Ins.)	Counter Balances Used?	Diameter and Length (Ins.)	Number	Main Bear	er and	Pressure to	Pump Type	Type	Pump Type	Furnished?	Type	(R.P.M.)	rque is I	Weight (without Carbu- reter or Ignition) Lbs.	Adapted for Use of Kerosene?		erall sions ((Ins.)	Bell Housing Provided? S.A.E. Numbers	MAKE AND MODEL
ar. ar. ar. ar. ar. ar. ar. ar.	17.00 21.00 12.56 12.55	5 92.2 5 183. 5 192.0 0 192.0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Car. Car. Ch N. Ch N. Ast. Ast. Ast. Ast. Ast. Car. Car. Car. Car. Car. Car. Car. Car	None.	NO NO NO NO NO NO NO NO NO Yes. NO Yes. NO Yes. NO Yes. NO NO Yes. NO NO Yes. NO NO Yes. NO	3 .00x3 .50 2 .25x3 .00 2 .50x3 .55 2 .25x1 .50 1 .50x1 .4 2 .25x2 .60 3 .00x2 .1 2 .37x1 .8 2 .25x2 .3 2 .00x2 .1 2 .12x2 .3 2 .25x2 .6 2 .62x3 .00 1 .50x1 .4	55553333344333333344444444334333333574433333333	3.50x4.75 3.50x4.75 2.99x3.06 2.25x4.12	2, 75x5, 00 3, 50x5, 12 2, 37x4, 56 2, 37x4, 56 2, 37x4, 56 3, 00x5, 22 3, 70x4, 56 3, 00x5, 22 2, 99x3, 27 2, 12x3, 4, 4 2, 12x3, 12x3, 1 2, 12x3, 1	Splash Spl	Gear.	Pump.	Cent.	Stk. Opt. Opt. Opt. Opt. Opt. Opt. Opt. Opt	Cent. Cent. None. None. Opt. Opt. Opt. Opt. Opt. Opt. Opt. Opt	1200 1200 1100 1650 1800 1800 1400 1200 1100 None.	800 675 560 500 800 1750 700 1000 1000 1000 1000 1000 100	2700 4700 4775° 1000 4775° 1000 4775° 1000 4775° 1000 2000 2000 2300 11275 690 4782 980 988 1140 1100 1100 1100 1100 1100 1100 11	Yes	266 266 266 283 26 30 30 30 30 30 30 30 30 30 30 30 30 30	455-444 455-443 322-3-3-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	3778865 500621 - 3778865 500621 - 555585555555555555555555555555555555	None. 1. 2 2. 3. 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	Automatic. J5 Automatic. Automatic. Automatic. Automatic. Automatic. Beaver. JD, Beaver. JB, Beaver. RA, Beaver. RA, Beaver. RE, Beaver. RA, Beaver. RA, Buda. G Buda. W Buda. KB Buda. FB Buda. FB Buda. FB Buda. FB Buda. B Buda. C Bufalo. B Buda. JI B

Io—Valve in Head; overhead camehaft.
Ind—Industrial.
Int—Integral.
L—Valves at side. ("L" head).
Mag—Magnesium.
NicS—Nickel Steel.
NP—No provision.
Opt—Optional.

PS—Pressed Steel,
Rail C—Rail Cars.
Sep—Separate.
Sil—Sleeve.
Spec—Special.
SS—Semi Steel,
SI—Sleeve.

Pist-Piston.

Tun—Tungsten.
Var—Various.
*Optional.
Others also.
I—Inlet valve only.
Fressure to all main crankshaft.
and camshaft bearings.
\$-1927 Specifications.



American Stock

					ns.)		u ₀	CYL		CR	ANKC	ASE		VAI	LVES		FRO	ONT DRIVE			PIST	ONS		
MAKE		ers, Bere	C.C.)		nt (Cu. Ins.)		Suspension		Piece	Uppe	r Half	Half)			(Ins.)						028.	Piston	Pins	
AND MODEL	Designed For	Number of Cylinders, and Stroke (Ins.)	Rated H.P. (N.A.C.C.)	R.P.M. at Maximum Brake H.P.	Piston Displacement	Compression Ratio	Number of Point	Head	No. Cast in One P	Integral with Cylinders?	Material	Material (Lower F	Arrangement	Head Material	Clear Diameter (I	Lift (Ins.)	Туре	Non-Metallic Gear Used On?	Material	Length (Ins.)	Weight (with Pins, Rings & Bushings)	Diameter and Length (Ins.)	Pin Bearing In	Number of Rings
Jackson J-A John Deere D Le Roi. K LeRoi. 2C LeRoi. MR & MR & MR Le Roi. RéRR Le Roi. RéRR Le Roi. RéRR Le Roi. SáSS Lever (Powell) BTC-1 Lever (Powell) PC-1 Lever (P	Tractors. Cars, T, Tr. C. T, Tr. Tractors. Industril Cars. Cars. C. T, & B. Cars. C. T, Tr. Cars. C. T, B, Tr. Cars. C. & T. C. T, & B. Buses, Tr. T, Buses. Trucks & Buses Trucks & Buses Trucks & Buses Cars. Cars. Cars. Cars. Cars. Cars. Cars. Cars. Cars. Trucks & Buses Trucks & Buses Trucks & Trucks & Buses Trucks & Trucks & Trucks Trucks	2-3-4x44 2 3-4x4 2 3-4x4 6-3-3-x6 6-2-3-x6 8-2-3-x6 8-2-3-x6 8-2-3-x6 1-4-x5 1-4-x5 1-4-x5 1-4-x5 1-4-x5 1-4-x5 1-4-x5 1-4-x5 1-4-x5 1-3-4x44 1-3-3-4x44 1-3-3-4x44 1-3-3-4x44 1-3-3-4x44 1-3-3-3-3-3-3-3-3-3-3-3-3-3-3-3-3-3-3-3	15.04 20.0 16.90 21.03 22.50 25.60 32.50 32.50 32.50 32.50 36.0 42.53 36.0 42.53 38.8 33.8 33.8 33.8 42.0 43.0 44.0 42.0 44.0 44.0 44.0 44.0 44.0 44.0 44.0 44.0 44.0 44.0 44.0 44.0 44.0 44.0 44.0 44.0 44.0 46.0 4		224.0 298.6 298.6 95.0 298.6 95.0 298.6 95.0 298.6 95.0 298.6 95.0 298.6 95.0 298.6	904405688910876025744405055520033373333393000081555106876 34444444553444334555444445554444444345444444	3333444443333333344444333344444333D4333333	Det. Det. Det. Det. Det. Det. Det. Det.	244212668444444886666668888668842444462626444444211122	Sep. Sep. Sep. Sep. Sep. Sep. Sep. Sep.	Iron.	PS.		Sil-0. S	1. 31e 1. 25° 1. 31e 1. 25° 1. 31e 1. 31e 1. 25° 1. 31e 1. 25° 1. 31e 1. 25° 1. 31e 1. 25° 2.	34 34 31 31 31 31 31 31 31 31 31 31 31 31 31	Heli	None. None. None. None. None. None. Crac Crac Crac None. Non	CI.	3 75 3 500 4 000 4 37 4 37 4 37 4 37 7 4 37 7 3 500 6 000 6	276 15 28 0 28 28 28 28 28 31 7 30.0 46 25.0 26 26 26 20 20 20 20 20 20 20 20 20 20 20 20 20	1.12x3.12 1.12x3.50 1.12x3.50 1.12x3.50 .87x2.81	Rod Rod Rod Pist Pist Rod Rod Pist Rod Pist Pist.	3 3 3 3 3
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ABBREVIATIONS:
a—Main Bearings.
Accx—Accessories Drive.
Al—Aluminum Alloy.
Als—Alloy Steel.
b—Connecting Rod Bearings.
B—Buses.

Ball—Ball Bearing.
c—Camshaft Bearings.
C—Cars.
Car—Carbon Steel.
Cam—Camshaft.
Cent—Centrifugal.
ChVa—Chrome Vanadium.
C&H—Chain and Helical Gear.

Crac—Crankshaft and Accessories.
ChN—Chrome Nickel Steel.
Chr—Chromium Steel.
Cl—Cast Iron.
Cran—Crankshaft.
d—Wrist Pins.
Det—Detachable.
Dur—Duralumin.

e—(Oiling System)—Timing Gear Case.
e—Exhaust.
Eee—Eccentric.
f—Rocker Arm.
Fle—Floating.
Heli—Helical.
I—Both valves in head.

Int-L-Ma Nic NP Opt Pist

Engines—Continued



CON	RO	ECTI	NG			C	RANKSHA	FT			LING	CIRCUL	TER ATION	G	OVERN	OR	МІ	SCELL	ANEO	US		-	
			- 4 · 4	-			Crank Pin		Main Bearings							ped	Maxi-			rerall isions)	MAKE
Material	1.	Center to Center Length (Ins.)	Weight (with Buslings and Cap) Ozs	Material	Offset (Ins.)	Counter Balances Used?	Diameter and Length (Ins.)	Number	Diameter and Length (Ins.)	Pressure to	Pump Type	Туре	Pump Type	Furnished?	Туре	Maximum Governed Speed (R.P.M.)	Speed at which M mum Torque is D veloped (R.P.M.) Weight (without C	ted for Use	Width	Height	Length	Bell Housing Provided? S.A.E. Numbers	MODEL
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Io—Valve in Head; overhead camshaft.
Int—Integral.
L—Valves at side. ("L" head).
Mag—Magnesium.
NicS—Nickel Steel.
NP—No provision.
Opt—Optional.
Pist—Piston.

PS—Pressed Steel.
Rail C—Rail Cars.
Sep—Separate.
Sil—Silcrome Steel.
Sleeve.
Spec—Special.
SS—Semi Steel.
SI—Silceve.

Spec—Special.

SS—Semi Steel.

SpP—Splash with pressure.

Sik—Standard Equipment.

Suct—Suction.

T—Trucks.

ThS—Thermo-siphon.

Tr—Tractors.

Tun—Tungsten.
Var—Various.
*—Optional.
*—Others also.
†—Inlet valve only.
§—Pressure to all main crankshaft
and camshaft bearings.
\$—1927 Specifications.



American Stock

						GE	(S.A.	IATER E. Nos			G	EAR R	ATIO		PIT	MINAL CH OF EARS	(CE OF ARS		XLE	SPF	GE OF RING TERS			
MAKE		Spring	Shaft				Re-		nal action		First Reduct			nal action						- 6			by		
AND MODEL	Designed for	Maximum Load on Pads (Lbs.)	Maximum Drive S Torque (Lb. Ft.)	Туре	Final Drive	Pinion	Gear	Pinion	Gear	Standard	Optional	Optional	Standard	Optional	First Reduction	Final Reduction	First Reduction	Final Reduction	itial E	Diameter at Wheel End (Ins.) Material S.A.E. No	Maximum	Minimum	Propulsion Taken	Torque Taken By	
ams	Cars Cars	3000 4500 8132 Var 2700 6000 8000 12000 2400 4500 5500 7000 10000 10000 10000 10000 3800 2300 2300 2300 2300	550 650 1000 1000 1000 Var. Var. 616 530 680 840 675 1330 675 900 900 900 900 900 Var. 450 300 Var. Var. Var. Var. Var. Var. Var. Var.	AND	SB.	2315 2315 2315 2315 2315 2320 2320 2320 2315 2315 2315 2315 2315 2315 2315 2315	Bro. 1 2320 1 2315 2 2 2315 2 2 2315 2 2 2315 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	None None None None None None None None None	None	$\begin{array}{c} 4.77\\ 5.1\\ 5.6\\ 6.28\\ 2.1\\ 2.1\\ 2.1\\ 2.1\\ 2.1\\ 2.1\\ 2.1\\ 2.1$	5.11 5.56 8.00 4.44 5.57 5.57 5.57 5.57 6.037 None 2.84 4.92 6.037 None 2.84 4.72 8 4.72 4.72 4.71 4.71 4.71 4.71 4.71 4.71 4.71 4.71 4.71 4.71 4.71 4.71 4.71 4.71 4.71	None None 4 .25 6 .22 6 .22 7 .2 .10 None 5 .0 4 .15 2 .13 None None None None None None None None None	None None None None None None Sone None None None None None None None N	None None None None None None None None	4 .65 .3 .80 .3 .4 .25 .3 .3 .4 .75 .4 .50 .4 .50 .4 .50 .4 .50 .4 .50 .4 .50 .4 .50 .3 .66 .3 .66 .3 .66 .3 .66 .3 .66 .3 .4 .4 .8 .8 .4 .8 .8 .4 .8 .8 .4 .8 .8 .4 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8	None. None None None None None None None None	1, 25 1, 69 1, 31 1, 25 1, 81 1, 25 1, 81 1, 25 1, 31 1, 50 2, 2, 3, 3, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4,	None None. None. None. None None None None None None 1.00 1.12 1.25 1.62 1.81 None None None None None None None None	1.25 (1.37) (1.3	1. 50 313: 1. 50 313: 1. 50 313: 1. 87 413: 2. 25 3144: 2. 25 3144: 2. 25 314: 1. 87 413: 1. 75 414: 1. 75 414: 1. 75 414: 1. 75 414: 1. 75 314: 1. 17 53 314: 1. 18 3	5 39 0 40 0 40 0 40 0 40 0 40 0 40 0 40 0	381/2 381/2 381/2 381/2 37 381/2 37 381/2 37 371/2 381/2 37 381/2 37 381/2 37 381/2 37 371/2 381/2 37 371/2 381/2 37 37 37 37 37 37 37 37 381/2 39 38 42 39	Sp	Sp.	
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ABBREVIATIONS:
-Gear Manufacturers
A A—Above Axle
B—Bevel
B A—Below Axle
B-L—Brown-Lipe

B-L-C—Brown-Lipe-Chapin B-R—Ball and Roller Bro—Bronze Bu—Buses C—Cars CS—Cast Steel D R—Double Reduction
Ext D S—External Driveshaft
Ext Rw—External Rear Wheels
F F—Full Floating
F—Semi-Floating
F—Three-quarter Floating

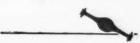
H B—Helical Bevel Hyp—Hypoid Hyd—Hydraulic Brakes I F—Inside of Frame

Rear Axles

Prevision for Radius Reds?

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		DIFFERE	NTIA	L	SERVI	CE B	RAKE		EMERGE	NCY I	BRAK	Œ			В	EARIN	GS							5
Designed for Hetchkiss Drive?	Location of Spring Pads	Make	Туре	Number of Pinions	Type and Location	Diameter of Drum	Width (Ins.)	I hickness of Ins.)	Type and Location	Diameter of Drum	8.)	Thickness au	Location of Brake Shaft Arms	First Reduction Pinion	Final Reduction Pinion	At Differential	At Wheels	On Pinion Shaft	Axle Housing Material (S.A.E. No.)	Minimum Road Clearance With Regular Tire Size (Ins.)	Tread (Ins.)	Weight (Lbs.)	Recommended Lubricant	MAKE AND MODEL
Yes Ye	A A.	New P New P New P New P New P Frost B-L-C B-L-C B-L-C Own Own New P B-L-C B-L-C Own Own B-L B-L-C B-L-C Opt	B. B	224444422444444444444444444444444444444	Ext-Rw. Int-Rw. Int-Rw. Int-Rw. Int-Rw. Int-Rw. Int-Rw. Int-Rw. Int-Rw. Int-Rw. Ext-Rw. Ext-Rw. Ext-Rw. Ext-Rw. Int-Rw. Ext-Rw. Ext-Rw. Ext-Rw. Ext-Rw. Ext-Rw. Ext-Rw. Ext-Rw. Int-Rw. Int-Rw. Ext-Rw. Int-Rw. Ext-Rw. Int-Rw. Ext-Rw. Ext-Rw. Int-Rw. Int-R	155% 14 15 18 20 19 135% 144 16 165% 165% 167% 167% 112 12 14 12 12 12 14	21/2 21/4 31/2 41/2 5 41/2 3 21/4 21/2 13/4 21/4		Int-Rw. Int-Rw. None. Int-Rw. None. Int-Rw. None. Int-Rw. None.	16 173/2 173/2 173/2 173/2 173/2 161 16 16 173/4 143/8 143/8 183/8 10 10 10 10 10 10 10 10 10 10 10 10 10	234 234 134 134 141 100 100 100 100 100 100 100 100 10	-16 -16 -17 -17 -17 -17 -17 -17 -17 -17 -17 -17	Hyd. Hyd. Hyd. I F. I F	Ball Ball Roller. Roller. Roller. Ball Ball Roller Roller Roller Roller Roller	None None None None None None None None	Roller Roller Roller Ball Ball Ball Roller. Roller. Roller. Roller. Roller Roller Roller Roller Roller Roller Roller Roller Roller Roller Roller	Roller. Roller R	Ball Ball Ball Ball Ball Ball Ball Roller. Roller. Roller. Roller.	Ma I. Ma I. C S. Spec. C S. C S. C S. C S. Spec. Spec. Spec. 1235 Steel. 1235 Steel. 1040 1040 1040 1040 INMA I. MA I. MA I. MA I. MA I. MA I. INMA I.	9\frac{4}{3}x32 9\frac{3}{3}x32 10\frac{3}{4}\frac{3}{3}6 10\frac{3}{4}\frac{3}{3}6 3\frac{3}{3}\frac{3}{3}\frac{3}{1}\frac{1}{4}\frac{3}{3}3 11\frac{1}{4}\frac{3}{3}\frac{3}{1}2\frac{1}{4}\frac{3}{3}3 12\frac{1}{4}\frac{3}{3}\frac{3}{1}2\frac{1}{4}\frac{3}{3}\frac{3}{1}2\frac{1}{3}\frac{3}{3}\frac{3}{4}\frac{3}{4}\frac{3}{3}\frac{3}{3}\frac{3}{4}\frac{3}{3}\frac{3}{3}\frac{3}{4}\frac{3}{3}\frac{3}\frac{3}\frac{3}{3}\frac{3}{3}\frac{3}{3}\frac{3}{3}\frac{3}{3}\frac{3}{3}\frac{3}{3}\frac{3}{3}\frac{3}{3}\frac{3}{3}\frac{3}{3}\frac{3}\frac{3}{3}\frac{3}{3}\frac{3}{3}\frac{3}{3}\frac{3}{3}\frac{3}\frac{3}{3}\frac{3}{3}\frac{3}{3}\frac{3}{3}\frac{3}{3}\frac{3}{3}\frac{3}{3}\frac{3}{3}\frac{3}{3}\frac{3}\frac{3}\frac{3}{3}\frac{3}{3}\frac{3}{3}\frac{3}{3}\frac{3}{3}\frac{3}{3}\frac{3}{3	57\\\delta\) 157\\delta\) 157\\delta\) 157\\delta\) 156\\delta\) 156\\delta\) 156\\delta\) 158\\delta\) 158\\delta\) 158\\delta\) 158\\delta\) 158\\delta\) 158\\delta\) 158\\delta\) 158\\delta\) 158\\delta\) 158\\delta\] 158\\	359 437 716 761 150 250 285 275 275 285 380 320 275 285 385 560 720 1100 Var Var Var 753 165 137 165	Oil Oi	†Adams 75002 †Adams 75100 Clark 75100 Clark 8-345 Clark 8-504 Clark 8-506 Clark 8-506 Clark 8-506 Clark 8-506 Clark 8-708 Clark 8-708 Clark 8-700 Columbia 20000 Columbia 35000 Columbia 35000 Columbia 35000 Columbia 35000 Columbia 35000 Columbia 35000 Columbia 36000 Calumbia 35000 Columbia 36000 Calumbia 36000 Columbia 3
Yes	Opt. Opt. Opt. Opt. Opt. Opt. Opt. Opt.	Own	B. B	4 4 4 4	Int-Rw. Int-Rw	1514 16 16 16 16 16 16 16 17 1/4 12 1 21 22 1 18 22 17 17 17 22 10 24 17 17 18 18 18 18 18 18 22 20 22 22 22 23	2	1/4	Int-Rw. Int-Rw. Ext-DS\$ Int-Rw. None. Int-Rw. None. Int-Rw. In	15 fe No 15 / No 16 16 16 18 21 24 18 22 12 14 15 fe 18 18 12 12 14 13 12 12 14 13 12 12 14 13 12 15 15 fe 15 15 15 15 15 15 15 15 15 15 15 15 15	21/4 21/2 No.33/4 31/4 31/4 31/4 31/4 21/2 21/2 21/2 21/2 21/2 21/2 21/2 2	14 14 14 14 14 14 14 14 14 14 14 14 14 1	IF IF IF IF IF IF	Roller Ro	None. None None None None None None None None	Roller Ball.	Roller Ro	Ball	Ma I	12 -34 11 -36 11 36 11 36 12 40 12 40 11 -42 11 -36 11 -36	561/2 566 581-4 6554 6672 581-2 663 663,4 693,4 581-2 5693,4 571-2 571-2 571-2 571-2 571-2 571-2 571-2 571-2 571-2 571-2 571-2 693-4	437 450 607 697 950 1150 11275 1715 690 625 690 850 1000 1475 525 660 600 475 525 660 600 900 9750 720 1100 1200 1450 1450	Spec Spec Spec Spec Spec Spec Spec Spec	Timken

I G—Internal Gear
Int Rw—Internal Rear Wheels
Int D S—Internal Driveshaft
Ma I—Malleable Iron
Mol—Molybdenum

New P—New Process
No. F—Non-Fluid
OF—Outside of Frame
Opt—Optional
S-A—Springs and Torque Arm

S B—Spiral Bevel Sp—Springs Spec—Special T—Trucks T A—Torque Arm Var—Variable
Wo—Worm
*—Optional
2—When used with four wheel brakes
Others Also
†—1927 Specifications

American Stock Gearsets

					Febr	uary 18, 1
	EL	20, 208 30, 308 31, 31, 31, 31, 31, 31, 31, 31, 31, 31,	G25 D-21 S-5-S A-AAU R-AAU R-AAU FAS JUC W4C W4C W4C WAD RAD RAD RAD RAD RAD RUJC	HR W W KL M35 R F50 04700	TDU DU TU, SUG, GUG, GUG, ELSC-2.9 £2-SC-16 2-SC-2.9 2-SC-2.9 2-SC-2.9 2-SC-2.7	T4 T78 T77
	MAKE AND MODEL	Brooklyn. Brown-Lipe	Campbell Campbell Campbell Cotts Gear Cotts Trans. Covert	oit oit oit lore lore		
		Brown-		Detroit Detroit Detroit Dunder		Jones Jones Jones
	Recommended of Lubricant	555555555555	55555555888888888888888888888888888888	8888888	888888888	88888
WEIGHT (Lbs.)	munimulA	0 98 98 150 995 196 196 189 189 189	9	1120		80: 88:
WE	Gearshift Gast Iron	40	60. 60. 60. 60. 60. 60. 60. 60. 60. 60.	159 198 198 120 120 155 75	119 163 163 245 245 225 129 129 135 135	125 120 120 105 105
E	A.S brabnate		Noo. Noo. Noo. Noo. Noo. Noo. Noo. Noo.	Yes Yes Yes Yes Yes	Kes es e	Yes Yes
fch?	Sold With Clu		NNO. Second	ZZZZZZZZ	Y Y S S S S S S S S S S S S S S S S S S	00000
tie	Control Lecati	<u> </u>	<u> </u>	ජීප්ප්ප්ප්ප්ප්	3333333333	ප්ප්ප්ප්ප්
Gearsel Location		Eng. Eng. Eng. E-A. SeU. SeU. SeU.	Security Sec	Eng. Eng. Eng. E-A. Eng.	Eng.	Eng.
	Вечегае	8.5.00 6.00 6.00 8.3.94 7.75 8.4.39 8.3.97 8.3.97 8.3.97	78.88.30 74.88.80 60.00 60.	3.78 7.00 3.78 3.46 3.87	23.7 33.50 6.1 6.1 8.30 None.	3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
RATIOS	Fourth	None None None 0.78 0.78 0.100 None None	None 1.00 1.00 1.00 1.00 None None 1.00 1.00 1.00 1.00 1.00	None 1.00 1.00 None 73 None None	None None 1.00 1.00 1.00 1.00 None	None None
GEAR RAT	bridT	1.00 1.00 1.00 1.00 1.76 1.00 1.50 3.38	N N N N N N N N N N N N N N N N N N N	1.0001	1.000 N 1.00 N None N None	1.55
GE	Second	2.000 48 52 88 52 88 54 4 55 8 8 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	81.41.888888883.23.288	1.69 3.23 3.47 1.69 1.76 1.90 1.85	1.00 1.00 1.00 1.00 1.00 1.00 1.00	2.58 01.56 01.56 1.47
	Мед	0 24 26 26 26 26 26 26 26 26 26 26 26 26 26	00000000000000000000000000000000000000	33.36 3.36 3.36 3.36 3.36 3.36 3.36	24614408891 118988880995	4.2.83
uC	Direct Drive	: www.x.o	4-150444400004004444	⇔ 44000000	00044400000	460000
	Gear Teeth P	200000000000000000000000000000000000000	0-0-0-4-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0	2-0-2-0-0 0-8-0-0-0-0 0-8-0-0-0-0-0-0-0-0-0-0	6-8° 8-6-8-7-7-7-7-7-7-7-7-7-7-7-7-7-7-7-7-7-	Opt. 9
(19	Gear Material	2315 2320 2320 2320 2320 2320 2320 2320 232	22222222222222222222222222222222222222	Spec Spec Spec 3250 2320 2320 2320	2320 2320 2320 2320 2320 2320 2320 2320	2320 2320 2320 2320 2320
(19	Shaft Material	2315 CChS CCS	6155 8355	Spec Spec Spec Spec 2345 2345 3140	2320 2320 2320 2320 2320 2320 2320 2320	22222
lain	Housing Mate	Cast I CI & Al. COST I Cast I	Opt. Coast I.	Cast I Cast I Cast I Cast I Cast I Alum	Cast I	Cast I Cast I Cast I Cast I
(In.)	Reverse	10000000000000000000000000000000000000	_%%	200 Automo	None.	- Soutente
GEAR FACES	Fourth	None None 1 84. 021/8 None Dir	Dir. None N	None None None None None	None	None None None
GEAR	bridT	Dir. 24 12 12 12 12 12 12 12 12 12 12 12 12 12	**************************************	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	None	1.38 1.238 1.238 1.238
H OF	Second	200/2/2/2/2 - 12/2/2 - 12/2/2 2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2	9444444 444 444 444 444	% 74441 %	14/4/8/10/10/4/8/8/8/8/2/4/	7.24-12-12-12
WIDTH	Mesh Set	180 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	10 1 1 1 1 1 1 2 2 4 1 1 1 1 1 1 1 1 1 1 1	20/20 ofte/4,4/20/20		11.55 de trata de 17.50 de 17.
	Clutch	::::::::::::::		-		
	Speeds Type of Direct	7 CG C C C C C C C C C C C C C C C C C C	Spec.			Certific
(*8	Number of Fo			04400400	0004444500	44000
34	Distance Betw Center Lines of Main and Seco		488440000000044444400	8.4.08.84.48 8.6.89.44.8 8.6.89.84.88	86.88.44.6.44.88 87.67.67.88	4. အသေသသ သက်ကွက်က်
('SU	Inside Distant Iween Bearing Main Shaft (Is	4.50	13.00 12.50 12.50 12.50 13.50	6.00 12.19 6.7 10.00 8.62 5.31	6.19 7.00 7.00 10.00 12.25 12.25 4.66 4.66	88.79 88.11 7.87 7.64
S	Secondary	Ball Roller. Roller. Roller. Roller. Roller. Roller. Roller. Roller. Roller.	Roller, Plain. Ball. Ball. Ball. Ball. Roller. Roller. Ball. Ball.	Roller. Ball Roller. Ball Ball	Roller. Roller. Ball Ball Ball Ball	Ball Ball Ball Ball
BEARINGS	Pilot	Plain Roller.	Roller. Roller. Pall. Pall. Pall. Ball. Ball. Ball. Ball. Ball. Roller. Roller. Roller. Roller.	Roller. Roller. Roller. Plain Ball Roller.	Roller. Roller. Ball Ball Ball Ball	Ball Ball Ball Ball
8	Main Shaft	Ball Roller. Roller. Roller. Roller. Roller. Roller. Roller. Roller.	Roller. Ball. Ball. Ball. Ball. Ball. Ball. Ball. Ball. Ball. Ball.	Ball Ball Ball Ball Ball Roller.	Ball Ball Ball Ball Ball	Ball Ball Ball Ball
	Type	Clash. Clash. Clash. Clash. Clash. Clash. Clash. Clash.	Coococococococococococococococococococo	Clash. Clash. Clash. Clash.	Clash Clash Clash Clash Clash	COOOO
Maximum Engine Torque (Lbs. Ft.)		85 135 135 180 180 275 275 275 275 375	Var Var 125 200 2200 2200 377 500 1150 1184 1184 1184 1184 1184 1184 1184 118	165 200 200 215 Car Var Var 125	Var. Cyar. C	
	Designed for	C, T C, T C, T C, T C, T C, T T, B T, T T, T Buses Trucks Trucks	1. B. T. B. T. T. C. T. T. C. B. T. T. C. C. T. T. C. C. T. T. C. C. T. T. C. C. C. T. T. C.	Cars. T, B. Cars. Cars. Cars. Cars. Cars. Cars. Cars. Cars.	Taxi Trucks Taxi, T T&B T&B T&B T&B	Buses Cars Trucks Cars
	MAKE AND MODEL	208 30, 304 35 35 35 55 55 60 60 60 60	C25 55-57 64-70 64-7	HR R KL M35 M35 F R F F F F F F F F F F F F F F F F F	TDU TTU DU TTU D	74 Ba 778 C 778 T
	Z Z	Brooklyn Brooklyn Brooklyn Brown-Lipe	Campbell. Campbell. Cotts Gear Cotts Gear Cotts Tran Covert Covert Covert Covert Covert Covert Covert Covert	Detroit Detroit Detroit Spundere. Spundere. Spundere.	Fuller Fuller Fuller Fuller Fuller H	JonesJonesJonesJones.

Mechanica LU Mechanica LU Muncie Gear T23 Muncie Gear T23N Muncie Gear T23N Muncie Gear T23N Warner Corp. W-17460 Warner Gear T64J Warner Gear T64J Warner Gear T64J Warner Gear T74	mi Steel. ss. tors. riable.
Yes 58 (100 O). I. Yes 68 (100 O). I. Yes 68 (100 O). Yes 60 O)	Spec—Special. S St—Semi St T—Trucks. Tr—Tractors. Var—Variable.
4. 10 Eng. Ce. No. 2. 30 Eng. Ce. No. 2. 30 Eng. Ce. No. 4. 4. 44 Eng. Ce. No. 4. 44 44 Eng. Ce. Opt. 3. 47 Eng. Ce. Opt. 3. 47 Eng. Ce. No. 3. 77 Eng. Ce. No. 3. 77 Eng. Ce. No. 4. 40 Eng. Ce. No. 3. 77 Eng. Ce. No. 4. 60 Eng. Ce. No. 3. 78 Eng. Ce. No. 4. 30 Eng. Ce. No.	uid Oil. L r Plain. § Unit.
1.76 1.00 None 1.8 1.00 None 1.66 1.00 None 1.66 1.00 None 1.77 1 None 1.77 1 None 1.77 1 None 1.77 1 1 None 1.77 1 None 1.7	NoF—Non Fluid Oll Opt—Optional. P—Pitch RG—Rall Cars. R-P—Roller or Plain SeU—Separate Unit.
1045 5150 7-9 3 3.24 5140 2345 7-9 3 3.24 3120 3120 6-8 3 2.80 3120 3120 6-8 3 3.35 3120 3120 6-8 3 3.35 3220 5150 7-9 3 3.00 5140 5150 7-9 3 3.11 1045 5150 8-10 3 3.07 5150 5150	Direct. E.A.—Engine or Amidships. Eng.—Unit with Engine. GeT.—Gear Teeth. Ind.G.—Individual Clutch.
	.luminum.
Sometime and the second of the	Cast I—Cast Iron. Ce—Center. ChS—Chrome Steel. CI & AI—Cast Iron and A Con—Constant Mesh G-S—Center or Side.
2.0 2.0 4 4 4 6 GeT 7.0 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5	
Plain. Plain. 6.06 RP. RP. 6.55 Plain. Plain. 5.87 Roller Ball. 7.00 Roller Ball. 7.00 Roller Plain. 6.19 Plain. Plain. 7.00 Plain. Plain. 6.38 Roller Plain. 6.38 Plain. Plain. 5.46 Roller Roller 7.86 Roller Roller 6.46 Roller Roller 6.46	\$\frac{\kappa}{\kappa} - 1927 Specifications. \$\frac{\kappa}{\kappa} - \kappa \text{Aluminum.} \\ \$\frac{\kappa}{\kappa} \kappa \text{Re-Ball & Roller.} \\ \$\frac{\kappa}{\kappa} \frac{\kappa}{\kappa} \text{Re-Ball & Roller.} \\ \$\frac{\kappa}{\kappa} - \frac{\kappa}{\kappa} \text{Roller.} \\ \$\frac{\kappa}{\kappa} - \frac{\kappa}{\kappa} - \frac{\kappa}{\kappa} \text{Roller.} \\ \$\frac{\kappa}{\kappa} - \frac{\kappa}
120 Clash Ball 160 Clash Ball 165 Clash Ball 165 Clash Ball 160 Clash Ball 160 Clash Ball 150 Clash Ball 150 Clash Ball 150 Clash Ball 160	
Mechanica	ABBREVIATIONS:

Automobile Accident Statistics— 76 Cities (Department of Commerce)

*		Dea Weeks	ths		1	th Rat	pop.	
	Jan. 28,		Jan. 29,	1927	Jan. 1921	zeeks er 28,	Jan.	29.
City	deaths	due to ac-	deaths	due to ac-	deaths	in ofty	deaths	due to
Old The Control of th	Total de	Deaths d	Total de	Deaths d	r total	death	r total	deaths
Total (76 cities)	7,075	9.4	6,633	Die eid	22.2	For acci	21.2	For
Akron	74	47	51	*	Ť	1	†	
Albany	35 60	18 49	37 70	20 50	29.4 24.2	15.1 19.7	31.3 28.8	16.9 20.5
Baltimore	159	128	184	141	19.5	15.7	22.8	17.5
Birmingham	55 139	34 116	51 147	33 129	25.4 17.6	15.7 14.7	24.3 18.7	15.7 16.4
Bridgeport	24	20	29	19	*	†	10.1	†
Buffalo	133 27	115	134 15	*	$24.2 \\ 21.9$	21.0	$24.7 \\ 12.3$	*
Camden	61	23	59	22	46.0	17.3	45.2	16.9
Canton	42	36	34	*	37.2	31.9	31.1	*
Chicago Cincinnati	765 136	753	678 121	669	24.7 33.1	24.3	23.3 29.5	22.0
Cleveland	249	229	254	*	25.7	23.6	26.5	
Columbus Dallas	76 48	63 36	67 53	43	$26.2 \\ 22.7$	$21.7 \\ 17.1$	23.5 26.2	21.3
Dayton	25		48		13.9	*	27.3	*
Denver Des Moines	56 22	43 20	49 24	36	19.4 14.8	14.9 13.5	17.2 16.5	12.6
Des Moines	387	381	354		29.1	28.6	27.5	
Duluth	19	16	24	21	16.6	14.0	21.4	18.7
El Paso	27 37	20 35	18 39	12	23.9	17.7	16.5	11.0
Fall River	13	11	19	12	9.8	8.3	14.5	9.2
Flint Fort Worth	39 29	29	33 24	21	$\frac{27.4}{17.8}$	17.8	24.2 15.1	13.2
Grand Rapids	34	23	31	12	21.1	14.2	19.9	7.7
Houston Indianapolis	40 70	37 48	30 80	36 72	18.8	12.9	21.9	19.7
Jersey City	61	59	40	34	19.0	18.4	12.6	10.7
Kansas City, Kan	19	9	4	1	16.2	7.7	3.4	0.9
Kansas City, Mo Los Angeles	84 314	68 287	81 220	70 208	22.0	17.8	21.6	18.7
Lowell	15	11	23	*	13.6	10.0	20.9	
Lynn	14 67	12 34	10 40	10	13.4 37.6	11.5 19.1	9.6 22.7	9.6
Milwaukee	130	119	95		24.3	22.2	18.4	
Minneapolis Nashville	55 44	44 26	72 40	53 23	$12.3 \\ 32.0$	9.9	16.7 29.3	12.3 16.8
Nashville New Bedford	14	10	8	*	11.7	8.4	6.7	
New Haven	49	20	40	25	26.6	10.8	22.1	13.8
New Orleans New York	96 1,058	1,055	90 1,084	1,079	22.7 17.8	16.3 17.7	21.5 18.3	18.3
Newark, N. J	118	110	96	*	25.4	23.6	21.0	
Oakland Oklahoma City	54 22	41 22	57 29	53	20.3	15.4	21.9	20.4
Omaha	57	43	25		26.1	19.7	11.6	
Paterson Philadelphia	51 325	29 325	26 346	15	35.6 16.0	20.2 16.0	18.3 17.3	10.5
Pittsburgh	205	156	167		30.9	23.5	26.3	
Portland, Ore Providence	55 61	43	36 64	*	21.8	12.2	23.4	
Richmond	41	28	42	21	21.4	14.6	22.3	11.1
Rochester	64	49	64	53	19.8	15.1	20.0	16.6 19.9
St. Louis St. Paul	147 47	135	182 44	165	17.6 18.8	16.1 16.0	22.0 17.8	19.9
Salt Lake City	27	26	30	*	20.0	19.2	22.6	
San Antonio San Diego	46 36	34 24	42 47	36	21.8 31.3	16.1 20.9	20.6 42.7	32.7
San Francisco	138	132	127	118	24.0	23.0	22.5	20.9
Schenectady Seattle	12 72	8 62	22 77	18 71	12.9 19.2	8.6 16.6	23.7 21.0	19.4 19.4
Seattle	10	9	16		9.9	8.9	16.0	
Spokane		15	28	99	17.5	13.8	25.8	15.0
Springfield, Mass Syracuse	26 41	16 28	34 44	23 32	$17.7 \\ 20.9$	10.9	23.5 23.8	15.9 17.3
Tacoma	30	21	17	*	28.1	19.6	16.1	*
Toledo	108 45	80 24	77 34	14	35.5 33.0	26.3 17.6	$26.2 \\ 25.4$	10.5
Utica	17	9	19		16.5	8.7	18.6	
Washington, D. C.	111	83	100	74		15.4	19.0	14.1
Waterbury Wilmington, Del		16 35	15 23		33.3	27.8	18.6	
Worcester	48	30	31	*	24.6	15.4	16.1	
Yonkers Youngstown		23 56	19 41		20.3 34.3	19.4 33.1	16.4 25.0	
	-				-		-	

^{*} Not reported.
† Mortality rates are omitted, pending the establishment of more satisfactory estimates of population.

American Stock Front Axles

		February 18, 1928	
	MAKE AND MODEL	Adams Adams Adams Columbia Columbia Columbia Columbia Continent Continent Continent Continent Continent Continent Continent Continent Continent Eaten Timken	Var—Variable Y&P—Yoke and Pin
plote ,slee	Weight (Com Without Wh	100 100 100 100 100 100 100 100	Equipment
(.snl	Wheel Tread (88 88 88 88 88 88 88 88 88 88 88 88 88	Equi
FRONT WHEEL BRAKES	Type Diameter of Drum (Ins.)	12 12 13 13 14 15 15 15 15 15 15 15	-Standard Trucks
BRA		CLOOPOOOOOHINA TITATIIRA TIRA CARA CARA CARA CARA CARA CARA CARA C	Stk-
	Equipped?	I. HAMMHEREE E MAMERINE VANAMAMA E VE E E E COLO E E E E E E E E E E E E E E E E E E	
RANC	Tire Size (Ins.)		se Elli
ROAD	Absolute muminiM (.anl)	PAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPA	r of Axle Reverse Elliott
поізаз	(Ins.) Spring Pad Loc		中国
lo di	Effective Leng Drag Link Arn	00000000000000000000000000000000000000	RA-Rev.
ROD	End Type	TO TO THE TOTAL THE TOTAL TO THE TOTAL TO THE TOTAL THE	lenum
TIE	Location	L ZAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	Molybdenum No Provision
Do Wheels Trail?		1:::::::::::::::::::::::::::::::::::::	Mol-N-P-
Recommended Fore & Aft Inclination (Deg.)		000000000000000000000000000000000000000	
(*	lo noitanilanl Sed) selbniq2	**************************************	Air Operated.
ui -wat	Transverse Inc tion of King P (Deg.)	10000000000000000000000000000000000000	Air
1	Knuckle Arm (S.A.E. No.)	8 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Internal A
MATERIAL	Steering Knuckle (S.A.E. No.)	8	INT.
	Pivots		draulic
S TYPE	Thrust	Parish and the parish	I Hydra
BEARINGS	elbriq2 teu1dT	Plain Plain Plain Plain Plain Plain Ball B	xterna
B	sqnH ul	Ball. Ball. Ball. Roller.	18
	Type of Steering Head	Rev. Ell. Rev. Ell. Rev. Ell. Rev. Ell. Rev. Ell. Elliott	ASt—Alloy Steel B-P—Ball or Plain
	Width of Flange (Ins.)	######################################	Alloy Ball o
AXLE CENTER	Depth of Section (Ins.)	######################################	ASt- B-P-
XLE (Type	<u>चेच्चेच्चेच्चेच्चेच्चेच्चेच्चेच्चेच्चेच</u>	tion
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no baod mumixaM (Led.) shaq gairq2		2000 1820 28000 1820 28000 1820 28000 1820 28000 18300	t—1927 Specification
Designed for		75300 Care	
	MAKE AND MODEL	Adams 75300 Cars Columbia 75300 Cars Columbia 75300 Cars Columbia 75300 Trucks 753	*-Dimensions Optional.



American Stock Clutches



		city,			Each s.)	DIAM OF FA	ETER	bers	bers	rial		PR	ESSUR	ES (LI	os.)			DR TAKE	IVE N BY	t	vided	3	
MAKE AND MODEL	Designed For	Rated Torque Capacity, (Lbs. ft.)	Туре	Facing Material	Mean Radius of Ea Friction Face (Ins.)	Maximum (Ins.)	Minimum (Ins.)	No. of Driving Members	No. of Priven Members	Disk or Plate Material	Ne. of Springs	Total Spring Pressure	Total Pressure on Friction Face	Pressure per Sq. Ins. of Friction Surface	Pressure Required at Thrust Bearing to Disengage	Overall Outside Dian eter of Clutch (Ins.)	Type of Throwout Bearing	From Flywheel to Driving Members of Clutch	Fr'm Driv's Memb's of Clutch to Driving Shaft of Clutch	Means of Adjustment	Is Clutch Brake Provided	Bell Housing (S.A.E.) (Nos.)	Weight (Lbs.)
Borg & Beck	T & B. C & T. Ti& B. Cars. Cars. Cars. T & B. T & B. T & B. C & T. C & T	2000 180 300 90 125 155 180 125 181 180 182 184 125 184 125 184 125 184 125 184 125 184 125 184 125 184 125 184 125 184 125 184 125 184 125 184 125 184 125 184 125 184 125 184 125 126 126 127 127 127 127 127 127 127 127 127 127	M D. M D. M D. S P. S P. S P. M D. S P. S	Wo	4.30 4.69 4.87 4.19 4.00 3.62 4.00 3.81 4.37 4.37 3.31 4.37 4.37 3.71 4.18 3.71 4.18 3.71 4.18	11. 87 11. 87 11. 87 7. 87 9. 87 9. 25 9. 25 8. 43 9. 25 8. 43 9. 25 8. 43 9. 25 8. 43 9. 25 8. 25 7. 8. 43 9. 25 8. 25 7. 8. 43 9. 25 8. 25 7. 8. 43 9. 25 8. 25 9. 25 8. 25 9. 25 8. 25 9. 25 8. 25 9. 25 8. 25 9. 25	$\begin{array}{c} 7.25 \\ 7.25 \\ 6.75 \\ 5.12 \\ 6.75 \\ 6.25 \\ 5.87 \\ 6.75 \\ 6.25 \\ 5.50 \\ 6.25 \\ 6.$	22222223345415670884593495678862341112311112322332233223223222112	$\begin{smallmatrix} 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 $	Cast I. Cast I. Steel Steel Steel Steel Steel Steel Steel Cast I. Cast I. Cast I. Cast I.	1 3 3 1 1 12 12 12 12 12 12 12 12 12 12 16 6 6 6	Var 1200 1200 1200 1200 930 1020 930 Var Var	2200 2200 2200 900 1500 900 1300 1300 330 330 330 330 700 700 Var	31.6 31.6 31.6 31.6 32.1 3.0 32.1 3.0 31.0 31.0 31.0 31.0 31.0 31.0 31.	300 300 300 300 300 300 330 330 330 330	133/6 113/2 115/2 88/4 99/4 10/4 10/4 11/4 11/4 11/4 11/4 11/4 11	Ball T. Plain Ann B. Opt Opt Opt Opt Ball T.	Pins Keys. Pins Pins Pins Pins Pins Pins Pins Pins	Splines. Splines. Gear T. Gear T. Gear T. Fins. Gear T. Fins. Gear T. Fins. Splines.	S C P. S	No No No No No No Yes. Yes. Yes. Yes. Yes. No Yes. No	None. None. None. 1, 2. 1, 2, 3. 3, 4. 2, 3, 4. 2, 3, 4. 2, 3, 4. 2, 3, 4. 1, 2, 3. 1, 2, 3. 1, 2, 3. 1, 2, 3. 1, 2, 3, 4. 1,	37 52 225 44 123 123 135 173 135 123 123 123 123 123 123 124 125 126 127 128 129 129 129 129 129 129 129 129 129 129

ABBREVIATIONS:

AA—Above Axle B-P—Ball or Plain E-H—External Hydraulic Int—Internal

.- Dimensions Optional.

ABBREVIATIONS:

'-1927 Specifications.

'-Slightly higher for QL.

*-Varies According to Load.
AISt—Alloy Steel.
Ann B—Annular Ball.
Ball T—Ball Thrust.

R—Buses, C—Cars. Cast I—Cast Iron. CI&S—Cast Iron and Steel. Gear T—Gear Teeth. Lea—Leather. MD—Multiple Dry Disc.

MO—Multiple Disc in Oil,
Mo—Molded Composition.
Opt—Optional.
SCL—Screws in Clutch I evers.
SCP—Screws on Cover Plate.
Self A—Self Adjusting.
Step R—Stepped Ring.

SP—Single Plate.
Sp B—Spring Bolts.
T—Trucks.
Tr—Tractors.
Th R—Threaded Ring.
Var—Varies.
Wo—Woven Fabric.

SOME figures on the frequency of various causes of poor road illumination have been arrived at through a survey made by the University of California. The defects were determined by garages, but the total number of defects on which the percentages are based is not given. The percentages are as follows: Sockets, 11.45; poor connections, 13.77; lens, 9.17; out of adjustment, 19.78; gasket broken, 1.53; beam control, 12.22; lamp smashed, 3.06; bulbs, 16.80; focusing screw stripped, 1.53; reflectors, 3.81; poor wiring, 2.29; battery trouble, 3.06; circuit breaker

stuck, 1.53. Most trouble is due to poor adjustment, which is fortunate as this can be remedied by motorist.

It has been observed that in wet weather the proportion of cases in which one light is out is doubled, from which the conclusion is drawn that wiring systems and equipment are not as weather-proof as they should be. Of the fatal accidents in connection with automobile traffic in Alameda County, 5.8 per cent were directly attributable to faulty lighting, while in 4.8 per cent of these accidents it was a secondary cause.

Commercial Airplanes of the World

WEIGHTS	(Net Pay Lead (Lba.	320 650 6670 6690 6690 6540 6540 6540 6540 6540 6540 6540 654
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	PLANE	MAKE AND MODEL	Alexander Eaglerock Tr.Bi.

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Military, Training and Sport Airplanes

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FOR	Landing Speed (M.P.Hr.)			2002
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T		Cooling and Type	A-Rad M-Vee	A-Rad. W-Ver. W-Vee.
PLAP		.q.H IstoT	2000 2000	45 178 120
POWER PLANT	Number Used and Make		-Anzani' -Gnome	
	1	Total Seat. Capacity		
		Designed For	Sp.	Sport. Race. Sport.
	Class Type		Land,	Land Land
				Tr.Bi
PLANE MAKE AND MODEL		MAKE AND MODEL	L. M. 1918 L. M. 1920 PW9-C F2B-1 F2B-1 F3B-1 F3B-1 F3B-1 F4-1 F4-1 F4-1 F4-1 F4-1 F4-1 F4-1 F4	Pacer Mosquito Pricairn Sesqui.

February 18, 1928			
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08844 7 7 7700	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	65 69 69 69	Obs.—Observation. Pr&Whin—Pratt & Whitney. Pu.Bir—Bulber Biplane. Rad—Radial. Reern—Reconnoisance. Roi—Rolary. Sep.—Saplane. Sp&Tr—Sport and Training. St.T—Steel Tube.
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2100 114 1900 135 1900 135 1900 135 1950 155 1950 123 1450 98 1800 138	1780 190 15 1780 190 190 190 190 190 180	2000 93 1700 102° 1650 101 1850 101 1850 176 1800 141 1800 137	BILLOIJEREZZ
A-Rad . A-Rad	A-Vee. A-Rad A-B-Rad A-Rad A	A or W. -Rad. W-W. W-W.	
	24.10 24.10 25.20 25	40 100 500 500 550 550 150	ction.
d 1A-1500 1000 200 200 200 200 200 200 200 200 200	Airdisco. S. Jaguar Nimbus S. Jaguar Thrush. S. Jaguar Thrush.	CM 18 1 AC 9 12EB 12 Kg	m Tubing 1 Constru an. and Si in (Wood. rtible. omber.
2-Packar 1-Wright 1-Wright 1-Wright 1-Pr&W] 1-Pr&W] 1-Hispar 1-Curtiss 1-Anzan 1-Wright	1-A.D.C. 1-A.D.C. 1-A.D.C. 1-Blackburn 1-A.D.C. 1-Blackburn 1-Lion 1-Lio	Various Salmsor Salmsor Lorrain Renault Lorrain	AI.T—Aluminum Tubing A.M—All-metal Construction. Amp—Amphibian. AdSl-Aluminum and Steel. Aeste.—Aut 1500 Ft. Bonk—Bomber. Bonk—Bomber. Convt.—Convertible. Da.Be.—Da Bomber. Da.Be.—Da Bomber. Deck—Deck Flying.
UP 5 Recon. 2 Fi.Sc. 1 Deek°. 2 Fi.Se°. 2 Fi.Se°. 2 Sport 2 Sport 2 Sport 2 Sport 2 Sport 3 Sport 3 Sport 3	El.Tr. 3 R.Se. 1 Recon. 3 Sport 2 Sport 2 Train 2 Train 2 Train 2 Train 2 Sport 2 Recon. 3 Recon. 2 Recon. 3 Recon. 3 Re	Sp&Tr. Sp&Tr. Fisc SuBm. Fisc Da.Bo Recon.	
Fl.Bt Scap Land Scap Land Land Land Land		Convt Convt Eand Seap Land Land I and	
		L Bi	ż
PN-10Tr.Bi UO-1 Tr.Bi UO-1 Tr.Bi FU-1 Tr.Bi Corsair Tr.Bi Mohawk 180 Tr.Bi Mohawk 20 Tr.Bi T.S.Tr.Mo	Martinayde (T.B.) Martinayde (T.B.) Delt (A. Martinayde (T.B.) A. Martinayde (T.B.) A. Martinayde (T.B.) Gosport (T.B.) Sold-0 (T.B.) Sold-0 (T.B.) Sold-0 (T.B.) Sold-0 (T.B.) Sold-0 (T.B.) Avange (T.B.) Lucifer School (T.B.) Lucifer School (T.B.) Barwe (T.B.) CLA (T.B.) Lucifer School (T.B.) Barwe (T.B.) CLA (T.B.) Corocc (T.B.) Gorocc (T.B.) Gorocc (T.B.) Gorocc (T.B.) Model (T.B.) Sold (T.B.) Sold (T.B.) Walgen (T.B.) Valent (T.B.) Walgen (T.B.) Walgen (T.B.) South (T.B.) Walgen (T.B.) Walgen (T.B.)	Tec 1 Tr. Mo . C 1 Tr. Mo . C 2 Tr. Mo . I	ABBREVIATIONS: Others Also. 1927 Specifications. Inversed. Beaplanc. Maximum. Avaring. A Air. Ad-Ir. Advanced Training.
U.S. Navy. Vought. Vought. Vought. Vought. Vought. Vought. Wallace. M W-A-S-P.	A.D.C. Martinsyde Tr.Bi. Isa. A.D.C. Martinsyde Tr.Bi. Isa. A.D.C. Martinsyde Tr.Bi. Isa. A.D.C. Misse, Thrush Tr.Bi. Isa. Avro. Gosport Tr.Bi. Isa. Avro. Gosport Tr.Bi. Isa. Avro. Gosport Tr.Bi. Isa. Avro. S04-0 Tr.Bi. Isa. Avro. S04-0 Tr.Bi. Isa. Avro. S04-0 Tr.Bi. Isa. Avro. Avrian III Tr.Bi. Isa. Isa. Avro. Avrian III Tr.Bi. Isa. Avro. Avrian III Tr.Bi. Isa. Avro. Avrian III Tr.Bi. Isa. Isa. Isa. Isa. Isa. Isa. Isa. Isa	44 : T	ABBREVIATIONS

Military, Training and Sport Airplanes-Continued

WEIGHTS		Dispessable Lead (Lbs.)		661 1296 11296 11296 116650 4740 4740 4740 1830 1830 1830 1100 4190 4190 4190 1390 1390 1390		626 697 1110 405 595 540 528 528 528 528 528 1210 1130 1130 1130 1130 1130 1130 1130
WEI		Loaded (Lbs.)		2193 2431 24400 24400 24400 2520 2520 2520 2520 2		1925 2020 3320 990 1760 1760 1760 1760 1760 1760 1760 176
	Fuselage	Sminerol		Fab. Wd. Md. Alger Alger Fab. Alger Fab. Wd. Lawd.		W&F W&F W&F Fab. Fab. Fab. Fab. Fab. Fab. Fab. Fab
rs	Structure		WWd. WW&F. WW&F. WW&F. WWd. WWd. WWd. WWd. WWd. WWd. WWd. WW		BI-T Wd. Wood Wood Wood Wash-T SE-T SE-T SE-T SE-T Wood Wood	
MATERIALS		SniravoJ		Fab. Fab. Fab. Fab. Fab. Fab. Fab. Fab.		W&F. La Wd. Frab.
~	Wings	enege		Wdd. Wdd. Wdd. Wdd. Wdd. Wdd. All. All. All. All. All. All. All. A		Wd Wd Lawd- Lawd- Lawd- Lawd- Lawd- Lawd- Lawd- Lawd- M-M A-M A-M A-M A-M A-M A-M A-M A-M A-
		Ribs		MAG		Wd
		Staffer (Ins.)		.co .c		N N 133.755 133.755 133.755 14.68 5.2 75 14.68 14.68
NC		Area (Sq. Ft.)		473 473 470 1660 1660 1660 1146 425 285 285 285 285 285 285 285 285 285 2		270 1 2285 1 216 216 216 216 2259 2259 2259 2259 2259 2259 2259 225
WING DIMENSION	Chord	Lower (Ft. Ins.)		4 4 8 19 2 9 8 8 9 9 8 8 9 9 8 8 9 9 8 8 9 9 8 8 9 9 8 8 9 9 8 9 9 8 9 9 8 9 9 8 9 9 9 8 9		4.1 3.944 None 4.33 4.33 4.33 None None None None None
WING D	ť	Upper (Ft. Ins.)		47-1150000 00000077 48008888888817000 801018889 800000077 900088888888770000		4.06 5.26 5.26 5.26 4.33 4.33 12.12 5.75 6.06 Taper
	Span	Lower (Ft. Ins.)		30.3 None. 147.9 87.3 87.3 87.3 87.3 87.3 87.9 87.9 87.9 87.9 87.9 87.9 87.9 87.9		33.1 327.9 320.0 32.8 32.8 32.8 32.8 32.8 32.8 32.8 32.8
	8	Upper (Ft. Ins.)	ned	8.24391989 9.713747447478999999999999999999999999999999		
OVERALL		Height (Ft. Ins.)	Continued	44 1 2 2 1 1 1 2 2 2 1 1 2 2 2 2 2 2 2 2	AN	88 88 88 88 88 88 88 88 88 88 88 88 88
IAO		Length (Ft. Ins.)	CH	28.88.88.98.98.48.48.88.88.88.88.88.88.88.88.88.88.88	GERM	4.11.6.28.28.28.28.28.28.28.28.28.28.28.28.28.
PERFORMANCE		(Mins.) Io Service Ceiling (Ft.)	FRENC	23-1310 23-1310 25-1320 25-1320 25-1320 25-1320 25-1320 25-1320 28-1320 28-1320 28-1320 38-2220 38-2220 38-2220 38-2220 38-2220	5	90-10500 13000 100000 10000 10000 10000 10000 10000 10000 10000 10000 100000 10000 10000 10000 10000 10000 10000 10000 10000 100000 10000 10000 10000 10000 10000 10000 10000 10000 100000 10000 10000 10000 10000 10000 10000 10000 10000 100000 1
ERFO		(M.P.Hr. at Sea-ler Landing Speed (M.	FR	1115 56 110 43 56 110 43 56 110 43 56 110 43 56 110 43 56 110 43 56 110 43 56 110 43 56 110 43 56 110 43 56 110 43 56 110 63 5		83.7 84.7 87.7 87.7 87.7 88.4 88.5 88.5 88.5 88.5 88.5 88.5 88.5
2		Propeller R.P.M.		13800 17750		1400 11000 1
T		Cooling and Type		A-Rad A-Rad A-Rad A-Rad A-Rad A-Rad A-Rad A-Rad W-W-W W-W W-W-W W-W W-W-W W-W W-W-W W-W W-		A-Bad. A-Bad. A-Bad. W-Ver. W-Ver. W-Ver. A-Bad. A-Bad. A-Bad. A-Bad. W-Ver.
PLAN		.9.H IstoT		20000000000000000000000000000000000000		825 220 220 220 220 220 220 220 220 220 2
POWER PLANT		Number Used and Make		Hispano 8Ab Guome RH Jupiter Farama 12 WE Gorane RH Jupiter Grome RH Jupiter Grome RH Jupiter Grome RH Jupiter Grome RH Jupiter Hispano RH Jupiter Hispano RH Jupiter Hispano 12 Ha Hispano 12 HB		Siemens H SH 12
	-	Designed For Total Seat, Capacit		Train 5 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Sport. Train. Train. Train. Train. Train. AdTr. AdTr. AddTr. Sport. Sport. Sport. Sport. Sport. El. Ir. El. Ir.
		Туре		Jand. I Jand.		Land, Sept.
	[Class			THE STATE ST		TTB TTB TTB TTB TTB TTB TTB TTB TTB TTB
PLANE MAKE AND MODEL			Caudron 19 Tr. Bi Land Obs 22		Albairos L 68 c Transletos L 51 m. Anado SC-1 m. Anado SC-1 m. Capar Capar C23 m. C24 m. C24 m. C24 m. C25 m. C25 m. C27	

1320 2200 5270	1760 33960 55060 9900 880 1980		985 503 1411 2310 2280 495	4930 3630	
. 5000 . 5400 . 14400	4466 112550 10550 24000 3010 5500		5140 3690 3575 1279 3748 5480 5340 1520	13200	
Tabb Rabb Tabb	Lawd. Lawd. Lawd. Lawd. Lawd. Fab.		Fab. Fab. Fab. Fab. Wd.	A-M	ng.
######################################	Wd Wd Wd Wd Md Al&St		Mg di	A-M	Submarine. Tapered Wing.
W&F. W&F. W&F.	Fab. Fab. Fab. Fab. Fab.		Fab. Fab. Fab. Fab. Fab.	A-M	Subm—Su Taper—Ta
Mq. Wq. Wq. Wq.	Wd. Wd. Wd. Wd. St-T.		Wd Wd Wd Wd. A-M W&F.	A-M	SEF
MA Wayana Maya May	Wd Wd Wd Al		Wd. Wd. Wd. Wd. A-M.	A-M	
33.4 33.4 4.6 4.4 4.4	00 00 00		00		
310 310 422 1030	592 1540 1540 1540 278		393 388 388 388 383 500 199 199	1030	Obs—Observation. Pr&Whit—Pratt & Whitney. Pa Ri—Pasher Riclane.
4.9 4.9 A.9 Nobe	7.05 7.05 7.05 7.05		6.4440 8.93.99 8.93.99 8.83.99 8.83.89 8.83.89 8.83.89 8.83.89 8.83.89 8.83.89 8.83.89 8.83.89 8.83.89 8.83.89 8.83.89	None	Pratt &
99977	8.2 10.6 13.1 7.05 7.05		2000 000000000000000000000000000000000		Obs Ob
28.2 28.2 33.4 None	28.9 82.0 108.2 34.1		35.4 35.4 35.4 None 550.1	None	
84.6 84.6	45.2.6 6.0.0 7.0.0	Z	20003334 20003335 811135	94.7	
100.8 101.11.18 101.11.18	23.88.88.88.8 4.4.4.6.0.00.00.00.00.00.00.00.00.00.00.00.00	AKIA	10000 2000 2000 2000 2000 2000 2000 200	13.9	ing.
DUTCH 137 68 40-22000 31.2 156 60 36-21200 31.2 144 56 42-12020 31.2 141 57 40-17500 31.2 130 59 45-12100 57.7	ITALIAN 127/49.630-640031.3 100/44.150-1310049.5 122/49.655-640049.5 130/49.645-1476049.5 130/49.645-1640053.8 169/52.720-1640030.1	CZECHO-SLOVAKIAN	2132 -17700 27 4 136 -21300 26 6 155 -21300 21 9 140 56 -24600 28 7 149 66 23-23600 28 7 149 67 27-21300 33 8 143 67 27-21300 33 8 143 67 27-21300 33 8	SWEDEN 56 -1475050.0 -13800 61.5	El.Tr.—Elementary Training. Fab.—Fabric.
1850 2200 2200 1950	1800 1800 1800 1850 2200 2000	Ö	1800 1750 1750 1850 1850 1850 1850		
A-Rad. W-Vee. A-Rad. W-W	A W A W-Vee. W-Vee.		W-Ver. W-Vee. W-Vee. A-Rad. A-Rad. W-Vee. W-Vee.	W-Ver.	
2 1-Armstrong S	21		1-Lorraine Dietrich 450 21-Perum 240 21-Hispano 240 21-Hispano 21-Hispano 21-Lorraine Dietrich 450 21-Walter 85	5 3-Junkers 5 840 63-Junkers L 5	A.T.—Aluminum Tubing A.M.—All-metal Construction.
Fi.Sc Fi.Sc Recon ToCa	Fi.Sc. NFB. NFB. NFB. Fi.Sc.		Recon AdTr DaBo Fi.Sc Train Recon Recon	DaBo	
Land Land Land Seap	Land. Land. Land. Land. Land. Land. Land.		Land. Seap. Land. Land. Land. Land.	Land	
CVD Tr.Bi CVD Tr.Bi CVE Tr.Bi CVE Tr.Bi TIV Tr.Mo	Carponi 70 T. Bi Carponi 73 TP Bi Carponi 73 TP Bi Carponi 73 TP Bi Carponi 79 TP Bi Fix 79 TP Bi Fix Cat. 20 Tr. 3i Fix Fix Fix Fix		Acro A 39 Tr.Bi Acro A 11 HS Tr.Bi Acro A 11 HS Tr.Bi Acro B H 11 Tr.Bi Acri B H 11 Tr.Mo Acri B H 26 Tr.Bi Vojenska S 16 W Tr.Bi Vojenska S 16 W Tr.Bi	AktiebelagetK 30 L Tr.Mo Land	ABBREVIATIONS: Other Also.
Folker Folker Folker Folker	Carpeni Carpeni Carpeni Carpeni Fiat.		Aero. Aero. Aero. Avia. Vojensi Vojensi	Aktiebe	

192
Mileage—
Highway
Foreign

Figures Furnished by Bureau of Foreign and Domestic Commerce

Total Improved Unimproved Mileage Mileage		009	1,270	32,400	1,670	8,500	
Country	ne						
Unimproved	411,650	27,550	11,671				
Improved							
Total	436,400	38,000	12,971	487	173	375	1.100
Country	France	Hungary	North Ireland	Madeira Is.	Netherlands W. I.	Newfoundland	Nicaragua
Inimproved Mileage	:	12,480	6,955	29,200	22,700	19	28.730
Improved Unimproved		6,328	25	4,110	2,200	485	3.970
Total	:	18,808					
		0	0				



Airplane Engines



						.M.								IGNI	TION	STAI	RTER				LLATIO	
ENGINE MAKE AND MODEL	Туре	Cooled by	No. of Cyls. Bore and Stroke (Ins.)	Piston Displacement	Compression Ratio	B. M. E. P. Rated B.H.P. and R.P.M	Maximum B.H.P. at R.P.M.	Crank shaft Normal R.P.M. Propeller	Fuel Consumption Lbs. B.H.P. Hr.	Oil Consumption Lbs. B.H.P. Hr. Fuel Consumption	Weight, Dry (Lbs.)	1	Carburetors Number and Make	Make	Туре	Number Make	Type	Length	Height †	Width †	Height Above Engine Bearers Above Engine Bed	Center to Center of Engine Bearers
										CAN												
	Vee 60. Vert Vee 90. Vee 60. Vee 60. Radial. Radial. Radial. Radial. Vee	Wat Wat Wat Wat Air Air Air Wat Wat	12-4/2x6 12-4/2x6 6-4/2x6 8-4x5 12-5/3x6/4 12-5/3x6/4 12-5/3x3/4 4-5/3x4/2 4-2/3x23/4 12-5x7 6-5/4x6/2		5.3 5.4 5.3 6.0 5.2 4.9 5.8 5.4 5.4 5.0 5.4	$\begin{array}{c} 128\ 430-1900\\ 122\ 430-1900\\ 122\ 430-1700\\ 135\ 435-2300\\ 144\ 430-2100\\ 133\ 160-1750\\ 112\ 90-1400\\ 128\ 600-2400\\ 128\ 600-2400\\ 130\ 600-2200\\ 105\ 60-1800\\ 115\ 135-1000\\ 120\ 125-1800\\ 127\ 225-1800\\ 122\ 125-1800\\ 122\ 125-1800\\ 122\ 125-1800\\ \end{array}$	450-2000 450-1800 460-2500 490-2500 175-1900 115-1700 635-2500 625-2500 145-1100 25-2250	1900 1140 1700 1700 2300 2300 2300 2301 1750 1756 1400 1400 2400 2500 2200 2200 1800 1800 1800 1000	.50 .50 .50 .50 .50 .50 .50 .50 .50 .50	.03 39 .02 36 .01 37 .01 39 .01 133 .02 8 .6 .01 53 .01 55 .03 5 .03 5 .03 12 .04	100 112 88 5 68 5 68 4 42 5 39 0 72 0 84 0 89 20 35 6 89 5 68	0 2 .3 5 2 .6 5 2 .0 0 1 .5 0 1 .4 0 2 .5 0 3 .9 0 1 .1 0 1 .3 0 0 2 .5 0 0 3 .9	3 1-Strom. 2 1-Strom. 2 1-Strom. 3 2-Strom. 1 2-Strom. 5 1-Zenith 0 1-Zenith 3 2-Strom. 1-Zenith 3 2-Strom. 1-Zenith 2-Strom. 1-Zenith 2-Strom. 1-Strom. 2-Strom. 2-Strom. 2-Strom. 2-Strom. 1 3-Strom.	D-R. D-R. D-R. Scin. Scin. Split. Berl. Split. Split. Split. Split. Split. Scin. Scin. D-R. D-R.	B B M M M M M M	2 Ecl. 2 Ecl. 2 Ecl. 2 Ecl. 2 Ecl. 2 Ecl. 2 2	Opt. Opt. Opt. Opt. Opt. Opt. EM. EM. HC. PS.	7434 5634 5634 5712 5538 6432 7034 3132 41	43 16 34 34 43 43 44 35 18 35 34 35 34 45 32 36 23	2618 2814 2814 2814 23 3 30 26 26 26 73/4 36 23	143/4 143/4 12 211/2 211/2 21/3 224/4 173/4 221/4 221/4 Radial Radial	17 17 17 158 158 153 127 153 153 Radia Radia Radia
obnson Junio ackard 3A-1500 ackard 3A-1500 ackard 3A-2500 ackard 3A-2500 ackard 1A-277: ratt & Whit. Wasp fright J-1 /right R-1750	Vee Vee Vee Vee Xx Radial Radial	Wat Wat Wat Wat Wat Air. Air.	12-5x7 6-514x61/2 6-41/4x61/2 12-53/6x51/2 12-53/6x51/2 12-53/6x51/2 12-63/6x61/2 12-63/6x61/2 12-63/6x61/2 9-53/4x53/4 9-41/2x51/2 9-6x67/8	1498 1498 1498 2490 2490 2775 1344 788 1753	5.5 5.5 5.5 5.7 5.7	140 600-2500 140 600-2500 140 600-2500 135 800-2000 135 800-2000 150 1200.2600 132 425-1900 123 200-1800 128 525-1900	0 650-2700 0 650-2700 0 650-2700 0 835-2100 0 835-2100	2500 1250 2500 250 2000 200 2000 100 2500 250	0 .52 0 .52 0 .52 0 .52 0 .52	.01 .02 .02 .01 .01 .01 .03 .03 .03	2 76 2 88 2 78 0 116 0 138 0 150 . 64 0 50 9 78	0 1.2 0 1.4 0 1.3 0 1.4 0 1.7 0 1.1 0 1.5 0 2.2 6 1.4	5 2-Strom 6 2-Strom 0 2-Strom 5 2-Strom 2 2-Strom 5 4-Strom 0 1-Strom 7 1-Strom 5 1-Strom	Scin D-R Scin Scin Scin Scin Scin Scin Scin Scin	M B M B B M M	2 A-M. 2 A-M. 2 A-M. 2 A-M. 2 A-M. 4 . 2 Copt. 2 Opt.	HC. HC. HC. HC. EM.	69 16 62 11 62 11 69 34 76 1/2 78 16	3814 3854 3858 3618 3618 4512 45		225/8 23 \$\frac{1}{2}\$ 6\frac{1}{2}\$ 27 \frac{1}{16}\$ 27 \frac{1}{2}\$ Radial Ra	153 153 163 183 184 144 Radia Radia Radia
		1	1					BI	RIT	ISH						1 BTH.			26	20		
ABC Scorpion. MK II. D. C. Airdisco D. C. Cirrus. MK A.D. C. Nimbus. L. D. C. Nimbus. L. C. Cirrus. MK L. C. C. L. C. C. C. C. C. L. C. C. C. C. C. C. C. L. C. C. C. C. C. C. C. L. C. C. C. C. C. C. L. C. C. C. C. C. C. C. L. C. C. L. C. C. C. L. C. C. L. C. C. L. C. C. C. L. C. C. L. C. C. L. C. C. L.	Veet. Vert. Vert. Radial. Vee 60. Vee 60. Vee 60.	Air. Air. Air. Air. Air. Air. Air. Air.		2 274.7 301.1 8 1261 540 756 1512 1513 1753 1753 1753 1753 12138 2138 1240 1296	7 4.6 7 4.6 7 4.6 7 4.6 7 5.5 1 5.2 0 5.0 0 5.0 0 2 5.0 7 5.3 8 6.3 8 6.	103 60-180 112 75-180 132 300-145 116 65-185 120 135-170 118 180-162 123 385-170 122 120-170 118 440-170 112 440-170 112 45-200 121 525-235 126 665-190 126 665-190 127 360-180 130 480-225	184-200 184-200 184-200 184-200 185-160 175-203 153-1870 140-1870 140-1870 140-1870 140-1870 140-1870 140-1870 140-1870 150-1870 160-200 160	1800 1800 1800 1800 1800 1800 1800 1800 1800 1800 1800 1800 1450 1455 1850 1855 18700 1700	0 .61 .560 .560 .560 .560 .560 .560 .560 .560	1018101	51 +0	3.5 4.7 7 4.7 7 5.5 3.4 7 5.5 3.4 7 5.5 2.2 2 3.6 00 2.6 0 2.6 00 2.6 0 2.7 00 2.7 0 2.8 00 1.8 1.8 2.6 0 1.8 2.	5 1-Zenith 1 2-Zenith 1 2-Zenith 5 1-Zenith 5 1-Zenith 6 1-Zenith 0 -Clau 5 1-Zenith 1 -Clau 1 -Clau 1 -Clau 1 -Clau 1 -Trip 5 1-Trip 5 1-Trip 6 2-Own 6 2-Own 7 1-Own 1 1-Own 1 2-Own 8 2-Own 8 2-Own	B.T.H. Siem. Watf. B.T.H. B.T.H. B.T.H. B.T.H. B.T.H. B.T.H. B.T.H. B.T.H. B.T.H. B.T.H. B.T.H. B.T.H. B.T.H.	M	1 BTH. 1	. Gas°	691/8	431/2	42 42 30½ 30½ 30½	18.1 223½ 30 Radial Radial Rad	17% 21½ 21½ 21½ 21½ 21½ 21½ 21½ 21½ 21½ 21½
						127 500-200	(JON	IIN.			010.0	10 4 7	Cai-	V.	2 D-H.		49.2	21 7	35.5		
Jispano S. 12J Jispano S. 12G Jispano S. 12G Jispano S. 12H Jispano S. 12H Jispano S. 12H Jerraine D. 7M Jerraine D. 1 Jerraine D. 12D Jerraine D. 12E Jerraine D. 12E	J N 60. In W 60. Vee Vee Vee Vee Vee Vee Vee Vee Vee A Vee A Vee A Radial. A Radial. A Radial.	Waa Waa Waa Waa Waa Waa Waa Waa Waa Air. Air.	t8-4.72x5.12 t8-5.51x5.91 t8-5.51x5.91 t12-4.72x5.91 t12-4.72x5.91 t12-5.51x5.91 t12-5.51x5.91 t12-5.51x5.9 t12-5.51x5.9 t12-5.51x5.9 t12-5.51x5.9 t12-5.21x5.9 t12-5.21x5.9 t12-5.21x5.9 t12-5.21x5.9 t12-5.21x5.9 t12-5.21x5.9 t12-5.21x5.9 t12-5.21x5.9 t12-5.21x5.9 t12-4.72x6.6	2631 1556 2 1309 716 1410 1410 1410 11124 1169 1169 1169 1169 1169 1183 1144	1 5.5 6 5.5 6 4.7 6 4.7 6 5.3 0 5.3 0 5.3 0 5.3 1 6.0 1 5.3 1 6.0 1 5.3 1 6.0 1 5.3 1 6.0 1 5.3	700-185 500-215 600-280 155-150 210-180 287-170 312-180 343-187 379-180 506-180 582-200 517-180 588-200 100-135 230-180 470-180 470-180	0 820 - 1920 920 - 1920 920 - 1920 920 - 2000 920 - 2000 920 - 2000 920 - 2000 920 - 2000 920 - 2000 920 - 2000 930 - 2100 930	0 1650 82 0 1850 92 0 1850 150 0 1500 150 0 1800 180 0 1700 170 0 1800 180 0 1870 187 0 1800 180 0 1800 1	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 6 0 6 6 0 6 6 6 6 6 6 6 6 6 5 5 6 5 5 6 5 5	3 02 7	. 42 . 60 . 60 . 76 . 86 . 86 . 90 . 90	20 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1 9 7 0 7 7 5 5 5 5 99 2-Zenith	Ducel	M	2 D-H. 2 Ducel 2 Ducel 2	EM. HM. EM. CA. CA. CA. CA. CA. CA. CA. CA. CA. CA	36 2 41 4 47 5 63 1 54 14	50.0 45.8 42.7 44.4 48.8 49.8 40.5	31.3 47.7	44.4 48.8 48.8 23.5 26.9	
orraine D12E	e W	Wa Wa	t 12-4.72x7.0 t 12-4.72x7.0 t 12-4.72x7.0 t 18-4.72x7.0 t 18-4.72x7.0 t 12-5.52x6.6	9 148 9 148 9 223	96.5	480-190 480-200 650-185	0 510		0 5	01 39	6 84 8 122	16 1. 20 1.	76 3-Zenith 77 4-Zenith	SEV SEV	M M	2 Viet 2 Viet	Air.	54.1 79.2	43.5	47.7 36.2	26.9 26.4	16
erraine D	2 Vee 60 b Vee 60 b Vee 60 g Vee 60 g Vee 60 h Vee 60 C Radial D Radial C Radial C Radial C Radial B Radial B Radial B Radial	Waa Waa Waa Waa Waa Air Air Air Air Air Waa Wa Wa Wa Wa Wa Wa Waa Waa Waa Waa	112-4.92x6.6 t12-4.92x6.6 t12-5.28x7.0 t12-5.28x7.0 t12-6.3x7.09 3-2.76x3.3 9-2.76x3.3 9-2.76x3.3 9-2.76x3.3 9-3.94x5.1 9-3.94x5.1 9-3.94x5.1 9-4.92x6.7 t18-4.92x6.7	149 149 9 186 265 265 9 60 9 122 9 182 2 31 2 456 114 0 229 0 136	4 5.6 3 5.6 3 5.6 5 5.3 2 5.3 8 5.6 5 5.6 5 5.0 2 5.0 2 5.0 2 5.3 3 5.6 6 6 6 6 6 7 5 6 6 6 7 5 6 6 6 7 6 7 6 7	133 430-180 129 500-202 132 550-180 129 570-190 128 700-170 124 740-180 12-180 25-190 40-200 45-180 120-180 230-120 460-170 260-165 260-165 260-165 260-165 260-165	0 525-180 0 470-180 0 510-202 0 565-180 0 592-190 0 740-170 0 760-180 15-240 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1500 150 0 1800 180 0 2020 108 0 1800 180 0 1800 180 0 1900 108 0 1700 170 0 1800 900 0	0 4 0 4 0 4 0 4 0 4 0 4 0 4 4 0 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	9 .02 5 .04 4 .04 4 .04 4 .04 4 .04 4 .04 4 .04 4 .04 1 .04	148 74 16 16 24 28 37 58 101 55 101	50 1	2	Own. Own. Own. Own. Own. Own. Own. Own.	M	2 Viet 2 Viet 2 Viet 2 Viet 2 Viet 2 Viet 1 Viet 2 Viet 2 Viet 2 Viet 2 Viet 2 Viet 4 Own.	Air. Air. Air. Air. Air. Air. PS.	63.2 66.0 72.2 73.4 77.0 79.5 22.4	42.0 42.0 44.8 44.8 45.0 45.0 12.6	33.1 35.3 35.3 38.6 38.6	24.4 24.4 26.9 26.9 26.7 26.7 Radial.	16. 15 15. 15. 17. Radia

Airplane Engines—Continued



			-0				R.P.M.										IGNI	TION	5	TAR	TER				LLATION SIONS (In	
ENGINE MAKE AND MODEL	Туре	Cooled by	No. of Cyls. Bore an Stroke (Ins.)	Piston Displacement	Compression Ratio	B. M. E. P.	Rated B.H.P. and R	Maximun B.H.P. at K.P.M.	Crankshaft Normal R.P.M.	Propeller Normal R.P.M.	Fuel Consumption Lbs. B.H.P. Hr.	Oil Consumption Lbs. B.H.P. Hr.	Fuel Consumption Gals. Hr. (Approx.)	Weight, Dry (Lbs.)	Weight H.P. (Lbs.)	Carburetors Number and Make	Make	Type	Number	Make	Туре	Length	Height †	Width †	Height Above Engine Bearers Above Engine Bed	Center to Center of Engine Bearers
1.W	Vert	Wat	6-6.3x7.49	1400			250-1400	310-1510	1400	1400	.46	.022	15	638	2.06	1-Own	Bosch	M	20	wn	CA°.	64.0	49.2		27.5	
1.Wvi	Vee 60.	Wat	12-6.3x7.49	2800	6.3	100	500-1410	640-1530	1410	1410	.48	.022	31.5	1110	1.74	1-0wn	Bosch	M	20	wn	CA°.	78.8	56.7	65.4	25.1	33.5
kersL7	Vert	Wat	6-4.13x4.72 6-3.91x7.09	373		102	90	110-2100	1550	1550	.55	.02	5	270	2.80	1-Sum 2-Sum	Bosch	M	2 B	osch.	HM HM	44.0	$\frac{28.1}{45.7}$		13.35 27.3	33.
	Vert	Wat	6-6.32x7.49	1410	5 5	1111	280-1275	310-1450	1500	1500	5	02	15	605	2.01	1-Sum	Bosch.	M	2 B	osch.	HM	60.0	49.7		28.1	30.
	Vee 60.	Wat	12-6.32x7.49	2820	5.5	111	560-1275	620-1450	1500	1500	.47	02	29 4	1190	1 91	1-Sum	Bosch	M	2 B	osch.	HM	69.0	33.1		25.2	42
mm Daimler	Horis	Air.	2-2 95x3 94	54	6.0		20-3000	22-3100			.66	.04	214	106	4.9	1-0wn	Bosch.	M	10	wn	HC	22.1				9.
mens & HSh 10	Radial	Air	5-3.94x4.73	287		107	60-1500	70-1750	1575	1575	.5	.02		258	3.68	1-Sum	Own	M	2 B	osch.	EM	33.8	40.5		Radial	Radi
mens & HSh 11	Radial .	Air	7-3.94x4.73	403			84-1500				.5	.02		326	3.39	2-Sum	Own	M					40.5		Radial	Radi
mens & HSh 12			9-3.94x4.73					125-1750			.5	.02		381	3.04	2-Sum	Own	M	2 B	osch.	EM		40.5		Radial	Radi
	Radial		9-5.75x7.5								.55	.04		750	1.65	1-Zenith.	Scin	M	2		CA		55.7		Radial	Radi
mens & H	Radial	AIF.	9-5.75x7.5								.55	.04		872	2.02	1-Zenith.	Sein	M	2		CA.	51.2	55.7		Radial	Radi
	Vee 60. Vee 60.	Wat	12-4.53x5.91 12-5.32x6.30	1140	5.6			433-2200 572-2000			.45	.02	28 39	722 953	1.6	2-Own 2-Own	Mar	M	200	wn	Gas°.		33.3 37.6	25.6	21.7 24.6	15 18
	Vee 60	Wat	12-6.70x7.88	2222	5.0			935-1800			.51	.05	68	1767	1.0	3-Own	Mar	M	20	wn	Caso.		46.7		30.4	20
ta Frasch200.	Vert	Wat	6-5.51x6.3	901	5.5			290-2000			.44		18.5	571	2 00	2-Zonith	Mar	M	20	wu	Gas°.		40.0	99 9	25.7	16
ta Frasch500	Vert	Wat	12-5.5x5.91	1698				543-2000			.45	033	38.5	924	1.8	2-Zenith. 2-Zenith.	Mar	M	20	WIL.	CA	73.5	37.2	31 9	22.4	15
		Air.	5-4.14x4.72	316	4.5		60-1450				.52	.03		225		1-Solex	Scin	M.	2		PS				Radial	Radi
lter85	Radial	Air.	7-4.14x4 72	445			85-1450				.52	.03		282		1-Solex 1-Zenith.	Scin	M	2		PS	33.6	37		Radial	Radi
lter120	Radial.	Air.	9-4.14x4.72	573				124-1650			.52			326		1-Zenith.	Scin	M.	2		PS	33.6	37		Radial	Rad

ABBREVIATIONS:

3/4 1/4 1/4 ial. ial. ial. ial. ial. ial.

lial... lial... 5.7 6.2 6.2 6.2 6.2

- †—Outside diameter of Cyls. for radial engines. ‡—Inverted. *—Bolt hole circle diameter. §—1927 Specifications. Others also.

- A-M—Aero-Marine.
 B—Battery.
 Berl—Berling.
 BM—Battery and Magneto.
 Bos—Bosch.
 B.T.H.—British Thompson
 Houston.
 CA—Compressed Air.
- Clau—Claudel.
 d—Dual
 D-H—Daurreu-Hertzmark.
 D-R—Delco Remy.
 Ducel—Ducellier.
 Ecl—Eclipse Bendix.
 EM—Electric Motor
 HC—Hand crank.
- HM—Hand Magneto.
 Horiz—Horizontal.
 Imp—Impulse.
 In—Inertia.
 In V—Inverted V.
 In W—Inverted W.
 M—Magneto.
 Mar—Marelli.
- Opt—Optional.
 PS—Propeller Swing.
 Salm—Salmson.
 Scim—Scintilla.
 Siem—Siemens.
 Spec—Special.
 Split—Splitdorf.
 Strom—Stromberg.
- Trip—Triplex.
 Var—Various.
 Vert—Vertical.
 W—3 banks of Cylinders.
 Wat—Water.
 Watf—Watford.
 Winfd—Winfield.
 X—4 banks of cylinders.

American Stock Steering

Specifications of typical models made by independent parts manufacturers.

		CAPA	CITY				UTSI AM E		STE	IG		MATE	ERIA	LS	_				Thrust		BE	ARING		ear Sh	afe		TR	ON- TOL ERS	Drive?	
MAKE & MODEL	Designed For	For Vehicle Gross Weight (Lbs.)	For Maximum Weight on Front Wheels (Lbs.)	Type '	Gear Ratio	Steering Wheel (Ins.)	Wheel Shaft (Ins.)	Column Jacket (Ins.)	Center to Center. Length (Ins.)	Maximum Angular Motion (Deg.)	Housing	Reduction Gear	Nut or Cam	Gear Shaft S.A.E. No.	Wheel Spider	Adjustable for Wear?	Туре	Number	Make	Diameter (Ins.)	Length (Ins.)	Туре	Number	Make	Diameter (Ins.)	Length (Ins.)	Location	Туре	Adapted for Right Hand	-
Semmer So Semmer Zo Semmer So So Semmer So So So So So So So S	C.T.B.T. Tr & B. Cars, T.B., C.T.B.Tr. C.T.B.Tr. Cars. C.T.B.Tr. Cars. C&T T&B. Cars. C&T T&B. Cars. C&T T&B. Cars. C&T T&B. Cars. C.T. Cars. C.T. C.T. C.T. C.T. C.T. C.T. C.T. C.	3800 8000 Light. 3500 Var Heavy 5000 4500 3400 3400 5000 Var 14000 4100 5600 7800 11500	Var. Var. Var. Var. Var. Var. Var. Var.	W&Sh W&Sh W&Sh W&Sh W&D N&L N&L N&L N&L N&L N&L N&L C&L C&L C&L C&L C&L C&L C&L C&L C&L C	13 14 18 20 24° Var Var Var	Opt. Opt. 18 20 18 18 18 18 22 22 17	18/8 18/8 18/4 11/9 11/8	154 11/20 11/20 11/20 12/20 11	Var. Opt. Opt. Opt. Var. Var. Var. Var. Var. 7	70 70 82 82 82 82 112 90 90 80 70 80	Mal. Mal. Mal. Mal. Mal. Mal. Mal. Mal.	1020 1020 1045 1045 1045 1112 6120 1020 1020 1020 3120 3120 2512 1020 1020	1020 1020 1020 1020 1020 1020 1020 ChN Bro. 2520 SS.	Nie° 2320 2330 2330 1045 1045 1045 1045 1045 1045 1020 1020 2320 2320 2320 2320 2320 2320	Al°. Opt. Mal° Al°. Opt. Opt. Opt. Opt. Opt. Opt. Al. Opt. Al. Mal Mal Mal Mal Mal Mal Mal Mal	Yes. Yes. Yes. Yes. Yes. Yes. Yes. Yes.	Ball Ball Ball Ball Roller Roller Ball Ball Ball Ball Ball Ball Ball None. None.	222222222111122222222222222222222222222	Nice. Nice. Nice. Nice. Nice. Nice. Nice. Nice. Nice. Nice. Nice. Nice. Nice. Nice. Spec.	Var. Var. Var. Var.	Var. Var. Var. Var. Var. Var.	Plain Plain Plain Plain	2003330330330330330330330330330330330330	Own Own	11/2 11/4 11/4 13/4 7/8 Var. Var. Var. Var.	Var. 144 2 114 2 114 Var. Var. Var. Var. Var. Var. Var.	AA° AW. AW. AW. AW. AW. Opt. Opt. Opt. AW. AW. AW. AW. AW. Opt. Opt. BW. BW. BW.	SL.	Yes. Yes. No Yes. Yes. Yes. Yes. Yes. Yes. Yes. Ye	2223336653342233373 · . 1 VV V

*ABBREVIATIONS:
-Others Also
-1927 Specifications
+Varies
Al—Aluminum
AW—Above Wheel
B—Buses

B&P—Ball or Plain Bro—Bronze Bunt—Bunting BW—Below Wheel C—Cars Car—Carbon Steel ChN—Chrome Nickel

C&L—Cam and Lever CI—Cast Iron Cleve—Cleveland Mal—Malleable N-D—New Departure Nic—Nickel

N&L—Nut and Lever
Opt—Optional
Qua—Quadrant
R-L—Ratchet Levers
Shaf—Shafer
S&N—Screw and Nut

SL—Short Levers
Spec—Special
SS—Semi Steel
SK-Steel
T—Trucks
Tr—Tractors

Var—Varies
W&D—Worm and Disk
W&S—Worm and Sector
W&Sh—Worm and Shaft
W&W—Worm and Wheel

Value of Export Shipments Up 19.6 Per Cent in 1927

This despite fact that there was a decrease of 1.2 per cent in number of car and truck units sold overseas.

By George Quisenberry

Editor, The American Automobile (Overseas Edition)

AUTOMOTIVE exports from United States and Canada went to record dollar volume levels in 1927, and for the first time exceeded the half-billion mark in wholesale value. Combined shipments having a value of \$537,548,189 were 17.6 per cent ahead of those of 1926.

The record of 1927 was made despite a slight falling off in the foreign sales of car and truck units, due largely to the Ford situation. There is every indication that the overseas assembly of Fords was not quite half that of 1926. Shipments of complete Fords were likewise greatly decreased. Nevertheless, so large a gain was made by other producers that the Ford loss was made up to within a small percentage of the total for the previous year. In 1927, export shipments of cars and trucks and overseas assemblies were 530,405 units compared with 537,076 units in 1926. The decrease in number was 1.2 per cent. The increase in value of car and truck shipments was 19.6 per cent.

Referring to the resume tables accompanying this article, which have been prepared by *The American Automobile* (Overseas Edition) with the assistance of the Automotive Division, Department of Commerce, decreases are shown in the shipments of cars, trucks and

parts from Canada, in the shipments of solid tires from United States and in motorcycles and engines. With the exception of solid tires and motorcycles, all of these decreases are directly due to the Ford position.

On the other hand, the list of increases is a long one. Car, truck, parts and accessory shipments from the United States are up sharply—17 per cent in the case of cars, 48.3 per cent for trucks and 18.2 per cent for parts and accessories. Tires, except the solids previously mentioned, increased notably. Tractor shipments were a fifth higher; electric cars and trucks increased 33 per cent; trailers, marine engines, storage batteries, ignition apparatus and service appliances were all well above their previous totals.

In the matter of service appliances, tabulations compiled last year and in previous years did not give a true picture of the situation. Many questionable items were included in the classification and many others of importance were left out. The expansion of service equipment sales abroad last year was undoubtedly much larger than is indicated.

The last few years have seen the establishment in various countries of Africa, Asia, Oceania, Europe and Latin-America of assembly operations and direct fac-

How U. S. and Canadian Exports Were Distributed to Major Markets—1927

TATOLI IN			
	Total	Cars	Trucks
Australia	73,600	47,712	25,888
Argentina	46,474	35,918	10,556
Brazil	26,035	14,974	11,061
South Africa	25,960	20,381	5,579
United Kingdom	23,901	18,131	5,770
Denmark	22,484	14,915	7,569
Belgium	17,965	13,842	4,123
Spain	10,721	7,518	3,203
Java and Maduro	10,280	6,584	3,696
Germany	9,474	8,700	774
New Zealand	8,415	6,954	1,461
Mexico	7,839	6,098	1,741

Total Exports and Foreign Assemblies

	Total Vehicle Exports, Incl. Ion-duplicated oreign Assem- bly Sales	Total Foreign Assembly Sales
1919	96,918	
1920	224,140	
1921	95,140	
1922	196,180	
1923	341,816	75,985
1924	390,337	116,148
1925	547,075	152,262
1926	537,076	145.774
1927	530,405	203,514*
* Includes British Ford	Assemblies	

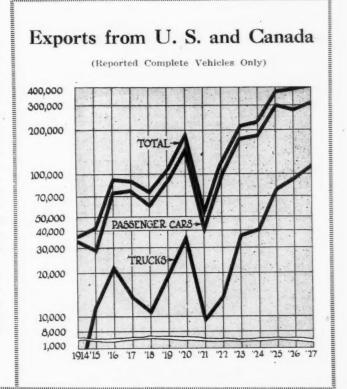


Exports



tory branches by American car manufacturers. In some cases local distributors are engaging in what amounts to a practical assembly of parts into complete vehicles. Such operations are not identical in manufacturing nature with the work carried on by Ford and General Motors in Argentina, Brazil, South Africa, Australia, etc., but there has been a considerable increase in the shipment of partially "knocked down" chassis to certain distributors handling large and important territories.

The effect of all these assembly operations on export totals is hard to show with accuracy. A large proportion of the cars manufactured in these assembly plants are reported as "complete vehicles" in the export statistics of both the United States and Canada. The total of these foreign assemblies, as computed by the Automotive Division, is shown in an accompanying table. As stated, many of these assemblies were reported as complete vehicles in export data. In the accompanying chart an effort has been made to show exports of actually complete vehicles only-that, is, all assembly operations have been eliminated from the export totals with as much accuracy as is possible under the circumstances.



Export Shipments by Value

Export Shipments by Units

				Increase					1927 -	e	
				1927 Over 1926					1926, Per	Unit \	/alue
	1927	1926		Per Cent	t	1927	1926	1925		1926	1927
From United States From Canada		\$176,481,302 25,779,659	\$184,895,836 27,794,884		Passenger Cars— From United States From Canada	278,742 39,900	238,481 53,628			\$742.00 480.00	
Total passenger cars.	\$230,119,128	\$202,260,961	\$212,690,714	13.7	Total passenger cars.	318,642	292,109	302,305	8.5	\$692.00	\$723.00
Motor Trucks— From United States From Canada	\$69,913,364 6,274,406	\$47,079,424 6,957,242	\$37,703,300 5,250,000		Motor Trucks—	105 457	66 772	50 694	E7 0	9 706 00	PCC 00
Total motor trucks	\$76,187,770	\$54,036,666	\$42,953,30		From United States From Canada		66,775 $20,692$				\$665.00 358.00
Total cars and trucks	\$306,306,898	\$256,297,627	\$255,644,018	8 19.6	Total motor trucks	122,967	87,467	74,770	40.5	\$616.00	\$619.00
From United States From Canada	\$99,335,620	\$83,927,732 5,485,486	\$80,311,160 6,372,72		Total cars and trucks	441,609	379,576	377,075	16.1		
Total parts	\$102,770,085	\$89,413,218	\$86,683,89	4 14.7	Branch Assemblies—†	80,000	157,500	170,000	6.3		
From U. S., total. Casings Inner tubes Solid From Canada, total Casings	33,749,013 3,499,317 3,006,392 \$20,495,892 16,913,065	\$30,839,589 24,358,907 3,024,177 3,457,505 \$17,524,940 14,645,309	\$29,474,67 23,021,55 3,252,180 3,200,94 \$11,675,84 9,731,12	7 38.5 0 15.8 2 *11.7 5 16.8 1 15.7	Tires— From United States Casings	: 2,629,857 1,627,179	1,497,132	1,628,182	75.5 44.3	\$16.32 2.20 35.21	\$12.85
Inner tubes Solid	3,143,901 438,926	2,567,105 312,526	1,695,79 248,92								
Motorcycles Tractors	37,102,302 $207,040$ $10,885,495$	\$48,364,529 \$4,915,949 30,485,519 155,688 12,522,189	\$38,885,63' \$5.075,13 27,965,59 195,60 15,290,06	9 *11.1 3 22.0 6 33.1 6 13.3	From Canada: Casings Inner tubes Solid	1,796,619	1,135,948		58.0		1.75
Marine engines Trailers Storage batteries Ignition apparatus. Servicing appliances	419,172 3,673,003 2,006,610 6,994,081	1,721,726 339,987 3,443,421 1,904,103 6,861,746	2,121,80 281,51 2,681,28 2,708,14 5,432,22	3 23.2 8 6.7 2 5.0 0 1.8	Other Automotive Products— Motorcycles Tractors Automobile engines	58,274	51,242	45,938 145,848	*78.0	594.00 106.00	113.00
Total	\$67,720,592	\$62,350,328	\$61,751,37	3 8.6	Trailers	928	970	623			
Grand total	\$537,548,189	\$456,425,702	\$442,964,97	2 17.6	coinge batteries	301,030	200,211	200,010	0.2	10.10	44.41

^{*} Decrease.

(Alaska, Porto Rico and Hawaii not included.)

† Not otherwise reported. (Alaska, Porto Rico and Hawaii not included.)



U.S. Parts and Tires



Countries		PARTS	-VALUE				1	TIRES—VALU	JE		
	1924	1925	1926	1927	Total 1924	Total 1925	Total 1926	Casings	Inners 19	Solids	Total
Europe: Austria	\$3,353	\$17,331	\$100,003	\$94,315	\$13,827	\$47,959	\$72,871	\$406,864	\$78,587	\$1,637	1
Azores and Madeira Is	3,651	11,648	16,140	14,902	4,180	3,623	10,088	14,087	1,446	310	15,84
Belgium Bulgaria	7,547,100		2,074,875		240,211	515,168 5,240		410,808 18,645		3,259 311	
Bulgaria Czechoslovakia Denmark and Faroe Islands	11,766	22,117	46,211	89,228	2,428 7,054	202,063	368,212	585,335	49,668	104,573	739,5
Jenmark and Parce Islands Sthonia	7,256,309		4,141,444 3,406		699,690 4,871	1,027,389		1,387,029	122,735	4,409	1,514,17
inland	24.914	92,313	227,940	391,145	120,118	174,633		16,152 331,104	3,204 38,022	3,091 1,469	
rance	4,449,883	4,436,612	2,385,969	2,025,683	. 190,114	530,121	361,914	361,550	39,516	2,961	404,02
ibraltar	.1 3.008		1,255,914 2,948	9,740,885	36,452	348,738	1,819,243 279	2,296,282 1,243		4,162	2,528,61 1,54
reece	81,674	140,574	62,775	170,980	109,925	284,696	145,327	266,303	25,111	19,141	
lungaryceland and Farce Islands	1,888 5,112		23,130	57,433 8,641	6,962 11,477		23,318	81,117	11,751	762	93,63
taly	730,982			540,477	112,263	18,788 93,792		16,049 520,389		42,954	17,99 633,68
atvia	2,763			13,200	11,609	29,380	11,899	14,021	861		14,88
Alta, Gozo and Cyprus Is	1,199 9,516				3,428 8,766			7,061 6,140			8,1
atherlands	.1 838.921	802,149	731,735	957,462	285,443	544,420		936,715		275 3,268	
lorway	152,687 74,496				306,531 20,888	428,869		313,899		19,710	371,7
oland and Danzig ortugal.	46,752				80,920	77,360 94,318		348,068 207,840		2,365 2,346	
umania	30,462	64,816	77,979	145,029	10,240	32,298	76,671	259,306		2,606	
ussia	1,805,290				. 17,965 280,404	71,028 573,138		19,846		194	25,0
weden	508,568				817,991	1,098,214		1,282,889 1,196,418		128,926 3,475	
oriugal. Lumania Lussia pain weden witzerland	60,977	82,374	108,067	117,879	116,204	172,252	424,432	585,527	71,999	24,793	682,3
urkey	4 326 764	40,570 5,344,252		70,448 5,152,244		3,677		50,948	4,225	2,764	57,93
rish Free State. ugoslavia and Albania	537,095	270,580	420,654	265,901	18,259	28,064		2,708,435 42,226	4.904	$319,770 \\ 2,919$	
ugoslavia and Albania	5,085	15,912						68,722	10,627	7,475	86,8
North and South America:	9 000	5,682	10,231	11,859	2,353	3,190	3,206	2,073	655	182	
anada	15,999,001	28,209,210	31,780,943	36,962,976	735,187	439,175		342,013		44,799	
anada Sosta Rica Suatemala	26,582	28,198	47,528	70,585	25,270	34.762	73,110	74,474	9,156	1,788	85,4
Amelia Company	. 27 671	75,772 36,146			29,216 39,262	65,936 43,534		135,794 26,000		1,297	153,2
licaragua anama alvador	13,645	16,907	20,642	23,407	10,975	18,026	18,104	14,331	2,505	15,041 5,190	44,14 22,02
anama	127,892 38,254		176,061		165,529 58,653	250,678	262,376	156,752	17,016	20,498	194,26
Aexico	1,007,132		92,509 2,021,217	1,632,497	1,221,219	84,503 1,297,968		64,836 1,054,909		23,825 68,262	
lawfoundland and Labrador	18 847	23,630	20,566	26,343	23,214	29,517	30,601	19,691		1,341	24,88
arbados.	29,218 120,557	32,113 182,932	41,168 188,123	32,510 230,306				6,286	1,094	1,936	9,31
rinidad and 109ago	01.662					43,805 26,343		24,428 34,873		23,899 1,155	
bher British West Indies	37.712	55,800	74,937	60,766	24,184	28,560	25,110	8,897		1,160	
uba Iominican Republic	1,248,713 140,264			1,029,319 193,715	1,458,482 207,555	1,516,825 219,304		1,320,958	165,199	342,437	1,828,59
		23,069			30,861	44,398	164,282 49,424	233,911 59,669		22,398 1,035	
rench West Indies	14,480	19,717	8,487	13,489	8,247	22,884	17,316	10,103		1,491	12,50
laitian Republic	66,340 9,243		93,395 9.145		42,098 7,012	79,347		83,530		1,416	98,35
Dutch West Indies	7,561,022	5,986,614	6.598,419	4,113,594	1,551,422	6,631 2,509,524		2,768 3,254,078		1,786 254,944	
lolivia	24,003	44,259	62.768	82,293	8,263	31,674	33,888	43,780		499	49,25
hile	5,501,489 358,904		3,612.032 1,006,850	3,093,085 802,941	400,194 208,632	1,123,382 429,618		1,772,745	118,611	67,804	1,959,16
		426,620		880,829	180,913	323,484		519,760 531,110		46,955 35,157	613,38 646,64
cuader	34,774	42,831	36,826	31,863	29,628	45,259	49,399	49,343	8,074	3,931	61,34
Intale Cuinna	2 801			18,106 4,553	4,414 2,681	2,285 3,533	5,820 1,731	2,632			2,76
rench Guiana	2,518	2,540	1,346	1,300	522	2,014		1,573 2,054		547	2,36 2,07
araguay	5,554		15,898	24,306	4,284	4,799	10,436	37,664	4,508	336	42,50
rench Guiana araguay eru Jruguay	416,703 321,328		513,046 506,268	467,416 632,029	418,270 258,782	367,319 457,112	393,404 524,105	359,207 385,009		14,112 32,101	
enezuela	168,439		564,137	511,519	247,991	439,716	552,512	456,238		5,927	
Asia:	4,144	3,325	7,743	. 15, 102	5,560	14,477	7 017				
British India	410,713						7,017 571,833	5,669 1,035,769		671 102,669	
evlen	56,944			149,717	72,095	124,853	223,415	163,089	14,929	20,582	198,60
British Malaya Other British East Indies	242,465 1,526	1.930	621,313	565,784	165,622	265,396 76	250,413	415,817	12,907	37,312	466,03
hina	144,975	312,609	368,547	340,134	96,420	238,721 471,267	388,965	280,430	27,239	11,597	319,26
china. lava and Madura. Other Dutch East Indies	230,118 50,896	301,717	400,271	692,209	300,368	471,267		601,069	41,788	30,280	673,13
rench Indo-Lhina	1 1.022		129,432 4,043	157,998 3,711	28,892 1,580	29,716 532		$112,675 \\ 2,124$	10,265 319	848	123,78 2,44
leiaz, Arabia and Irag	18,390	26,097	52,015	66,798	5,133	77,510	117,492	46,923	5,419	3,822	56,16
longkongapan	42,658 1,202,539		60,626 2,873,991	124,071 6,128,719	14,354 1,013,611	17,914	6,911	2,565	345	450	3,36
wantung	15,857	10,822	35,483	32,942	4,261	1,090,135 602	1,248,610 2,609	752,830 3,469	100,800 210	155,788	1,009,41 3,67
wantungalestine and Syria	103,316	120,972	143,306	162,655	58,329	127,200	115,572	151,769	13,514	1,330	166,61
bilinging Islands	2,391 369,249	5,265 538,159	22,066 672,728	114,883 696,990	2,285 820,461	1.364	64.445	85,120	10,275	17,105	112,50
ersia hilippine Islands ussia	504	704	115	34,298	820,461 3,103	1,006,217	1,167,837	1,393,962 3,509	223,004 968	197,829	1,814,79 4,47
iam.	7,225	12,350	37,303	74,745	7,341	2,187	7,072	11,266	2,606		13,87
urkey	3,392 1,583		19,430 161	39,416	798	197	6,588	39,158	7,494	999	47,65
			101	1,852		286	354				
ustralia	2,764,924	3,497,407	4,065,734	4,522,477	1,306,590	1,881,308	1,733,560	1,368,496	55,142	384,787	1,808,42
Uceania: ustralia lew Zealand Other British Oceania rench Oceania	831,345 8,175		1,258,123 22,097	1,113,867	887,823	1,127,898	499,335	141,999	9,148	71,661	222,80
rench Oceania	13,674		9,456	26,729 12,295	2,317 6,746	2,154 7,071	11,852 10,348	2,820	624 769	256	
riner Oceania	5,764				5,230	23,097	10,040	4,308	709	1,774	6,85
Africa:	9,479			99.040							
elgian Congoritish West Africa	130,286	43,754 207,741	51,216 201,986	22,216 481,195	1,084 34,411	1,297 33,946	13,774 65,178	1,771 141,797	20,977	317	2,20 162,77 573,72
ritish South Africa	936,577	1,277,706	1,381,886	1,517,313	430,200	389,907	310,617	506,750	42,501	24,471	573.72
ritish East Africa	87,070	154,197	186,273	223,786	68,835	84,477	66,898	144,379	11.996	1,820	158,19
anary Islands	49,351 75,070	69,600 119,368	78,569 129,075	55,486 1,197,461	68,761 41,964	79,570	128,639	128,214	12,279	19,816	160.30
gypt. Igeria and Tunis. Other French Africa	10,316	8,473	5.297	6,112	1, 427	97,176	140,114 3,204	128,887 7,007	17,783 1,170	37,534 874	184,20
ther French Africa	43,486	60,859	109,425	76,216	679	6,116	3,390	12,752	2,386	5/4	9,05 15,13
alian Africa	210 362		1,924	5,125		2,206	1,134	460		2,147	2,60
iberia	30,284	3,429 68,469	3,405 85,462	12,404 73,111	6,650	6,270 7,130	1,675 48,367	8,093	1,637		2,60° 9,73°
ortuguese East Africa	26,435	47,338	27,825	45,142	8,831	9,752	6,426	188,369 15,611	18,832 2,664	4,450 2,640	211,65 20,91
ther Portuguese Africa	24,820	20,324	36,181	58,630	9,100	10,403	13,213	19,710	4.114	2,010	23,82
panish Africa	26,980 3,436	17,228 312	17,847 26,717	16,641 243,319	2,657 3,407	12,999		3,630	53		3,68
							89	2,542	418	79	3,039
Total	\$71,161,226	\$80,310,494	1 \$43,888,680	\$99,344,572	\$19,774,651	\$27,210,162	\$30,840,589	\$33,787,315	\$3,499,302	\$2,887,082	\$40,173,69



American Car Exports



			1										
Countries	Up to \$500	\$500 to \$800	\$890 to \$1200	\$1200 to \$2000	Over \$2000	Total	Countries	Up to \$500	\$500 to \$800	\$800 to \$1200	\$1200 to \$2000	Over \$2000	Total
Europe -								14,517		8,136	2,18	657	34,
Austria. Azores & Madeira Islands	\$1,074 /8 \$7,516	52	25	\$38,024	\$25,592	110	Argentina		\$8,306	\$34,731	\$50,546		\$21,357, \$144,
Belgium	931	3,646 \$2,036,212	6,358	2,191	560		Brazil	6,449 \$2,433,161 647	\$1,392,962 284	3,897 \$3,281,163 485	\$1,314,133	\$862,591	\$9,284,
ulgaria	\$1,154	\$3,361	26	7		\$36,780	Chile	\$145,625 140	\$173,309		\$333,955	\$229,892	\$1,288
zechoslovakia	\$19,962			\$79,261	\$69,225	\$430,013	Colombia	\$53,886 25	\$12P, 678 28	\$653,506 34	\$674,885 45	\$458,943	\$1,962,
enmark	\$1,893,008		\$2,581,908	\$1,264,316	\$269,885	\$8,493,038	Ecuador	\$8,942 96	2	17	\$53,423		\$148,
inland	\$7,798 26	\$251,769 66			\$312,972 350	\$2,403,210	British Guiana Dutch Guiana	\$35,775	6	3	4		\$51,
rance	\$10,622 582	\$45,185 1,316	\$674,791	\$662,918	\$828,578	\$2,222,094	Paraguay	\$3,529 /6 \$5,616	8	29	8		\$19
ermany	\$114,433 474	\$789,417 202	\$3,853,097 282	\$1,500,308 76	\$2,338,804	\$8,596,059	Peru	234 \$88,440	148	314	120	15	\$44, \$625,
reece	\$183,170	54	152	93	\$59,947 20	\$676,179 324	Uruguay	794 \$308,505	1,093	1,014	265	82	\$2,318
ungary. eland & Faroe	\$2,285	\$29,788	9	3		17	Venezuela	\$140,275	231	\$573,232	420	125	1.
Islands	252 \$85,871	\$3,153 131 \$57,757	\$7,563 231	180	55	\$14,226 849	Asia—						
atvia	400,011	\$879	\$197,795 53 \$43,767	\$226,794 6 \$6,970	\$140,396 6 \$20,989	66	Aden	\$10,285	\$17,753	\$10,781			\$38,
ithuania		\$3,801	\$21,343	\$17,388	\$2,264	\$12,003 47 \$44,796	British India	\$7,709	\$379,230 70	2,607 \$2,148,128 409	\$308,098	\$135,139	\$2,978,
lalta, Gozo & Cyprus Is	\$496	\$10,573	\$23,716	13		58 \$49,821	Ceylon	\$1,890 46	\$45,391 289	\$353,542 398	\$70,570 90	\$17,333	\$488,
letherlands	\$7,642	\$384,778		\$837,870	\$457,022	2,816 \$2,745,505	British Malaya	\$21,612 /96	\$180,407 307	\$339,443 239	\$100,298 81	\$25,754 22	\$667,
orway	\$12,773	\$193,970		\$342,270	\$188,669	1,315 \$1,226,593	China	\$68,740 444	\$215,690 3,733	\$216,065 1,752	\$110,307 514	\$54,457 41	\$665, 6,
oland & Danzig	\$1,692	\$77,158	\$189,525	\$86,728	\$35,925	\$391,028	Java & Madura Other Dutch	\$211,628 //	164	257	\$618,187 45	\$328,570 25	\$4,550,
ortugal	\$47,164 551	\$293,787 1,445	\$288,036 537	\$216,037 299	\$67,633	\$912,657	East Indies	\$5,523 22	\$101,168 6	\$212,616 5	\$58,689	\$50,489	\$428,
umania	\$201,842 107	\$315,310		\$341,879 52	\$196,986 21	2,915 \$1,502,781 199	French Indo-China Hejaz, Arabia &	201	\$4,570 17	\$4,512 89		2	\$16,
ussia	\$37,774 170	\$3,900 1,920	\$10,202 2,844	\$66,468 1.942	\$50,782 539	\$169,126 7,515	Hong Kong	\$75,455 129 \$43,282	\$10,432 54	\$74,846 58	\$22,404 4	\$4,433	\$187,
pain	\$74,502 44	\$1,181,690 1,552	\$2,469,627 2,510	\$2,475,520 1,326	\$1,507,546 219	\$7,708,885 5,651	Japan	\$214,941	\$39,131 935 \$602,262	\$51,803 792 \$744,134	\$6,272 323 \$436,247	\$12,460 /20 \$318,701	\$152, 2,
weden	\$20,516 59	231	\$2,089,890 338	\$1,646,964 349	\$469,783 194	\$5,177,551 1,171	Kwantung	\$7,800	76 \$51,319	35 \$30,578	\$4,561	\$2,320	\$2,316, \$96,
witzerland	\$27,201 77	\$148,172 286	\$293,609 204	\$448,477 68	\$434,088 19	\$1,351,547 654	Palestine & Syria	\$63,146	153 \$94,619	\$339,925	\$125,084	\$14,388	\$637,
nited Kingdom	\$27,597 833	\$155,353 5,375	\$172,616 3,650 \$2,897,738	\$79,921 743	\$40,707 584	\$476,194	Persia	\$84,227	\$13,691	\$39,554	\$12,213	\$3,947	\$153,
ish Free State	\$309,009	\$27,622	\$37,636	28	\$1,388,553 2	\$8,868,034 96	Philippine Islands.	\$327,070	\$747,616	\$952,191	\$412,099	\$220,780	\$2,659,
ugoslavia	33 \$16,307	95 \$53,985	103 \$86,726	39	\$5,627 15 \$40,689	\$106,220 285 \$241,048	Russia		\$15,034	\$18,098	\$2,246		\$35,
America—	420,000	400,000	400,120	410,021	¢10,000	9211,040	Siam	145	\$31,457 52	\$41,994 /6	\$1,228		\$74,
ritish Honduras	\$2,150		\$3,569	168 \$4,892		\$10,611	Turkey	\$53,525 12,014	\$25,491 15,449	\$13,754 8,497	\$2,897 4,147	\$3,454 847	\$98,
anada	\$968,804	18,928 \$10,443,432	7,138 \$6,715,177	3,479 \$5,143,533	1,139 \$3,155,880	34,136 \$26,426,826	Australia	\$4,753,657		\$7,044,039 1,986	\$4,862,100 629	\$1,807,538 //3	\$26,685, 5,
osta Rica	\$5,064	\$24,638	\$141,240	\$122,172	\$43,810	\$336,924	New Zealand Other British	\$480,948 20	\$840,989 27	\$1,698,683 63	\$749,149 13	\$244,886	\$4,014,
uatemala	\$1,754 20	\$12,£43	\$116,701	\$188,836	\$109,532	\$429,766	Oceania	\$8,368 12	\$16,239 8	\$53,250 10	\$15,917		\$93,
onduras	\$6,739 22	\$11,533	\$19,775 56	\$8,964 27		\$47,011 118	French Oceania	\$3,265	\$5,773 9	\$9,949		\$2,500	\$21,
icaragua	\$7,070	\$7,589 155	\$50,336 269	\$33,399 182	\$4,897 69	\$103,291 906	Belgian Congo British West Africa	41	\$4,885 94	\$11,496	81	40 404	\$16,
nama	\$87,598 6	\$86,220	\$234,461 117	\$228,152 51	\$169,735	\$806,166 256	British South Africa	\$17,657 4,875 \$1,003,278	\$56,570 3,404 \$2,062,261	\$95,530 6,866	\$101,436 2,587	\$9,424 148	\$280, 17,
lvador	\$2,131 2,640	\$27,221 1,503	\$102,156 1,171	\$65,695 547	\$96,303	\$293,506 6,028	British East Africa	\$18,221	168 \$104,413	333 \$280,494	\$2,984,131 /30 \$150,804	\$307,046 6 \$11,946	\$12,910, \$565,
exicoewfoundland &	\$935,876	\$935,377 115	105	\$748,935 56	\$409,212 /	\$4,127,931 300	Canary Islands		\$19,516	\$67,600	28 \$35,914	\$11,570	\$134,
Labrador	\$4,073	\$69,656	\$88,702 31	\$65,487 10	\$1,663	\$229,581 58	Egypt	\$216,479	1,716 \$859,097	\$726,191	\$308,780	34 \$78,855	\$2,189,
maica	\$6 \$28,285	\$11,240 /82	\$26,788 208	\$12,557 44	18	\$50,585 538	Algeria & Tunis		\$5,428	\$29,653	\$6,117		\$41,
inidad & Tobago	\$1,550	\$103,872 6	\$174,675 92	\$55,634 15	\$42,497	\$404,963 117	Other French Africa	\$9,679	\$2,525	\$21,499	\$9,463		\$43,
her British West Indies	102 \$26,853	\$3,919 19 \$11,592	\$76,294 33 \$29,004	\$18,405 // \$14,847	\$1,700 3 \$8,155	\$101,868 168 \$90,451	Liberia	\$3,255	\$764	\$6,283	\$1,655	\$2,555	\$14,
ba	1,134 \$408,025	1,783 \$915,923	904 \$810,575	\$604,644	\$598,373	\$30,451 4,483 \$3,337,540	Morocco	\$36,825 33	\$23,816	\$91,353	\$37,416		\$189,
ominican Republic	238 \$106,736	\$249,553	207 \$177,446	\$98,842	36 \$86,807	1,040 \$719,384	Africa Other Portuguese	\$1,062	\$24,893	\$159,129	\$53,765	\$5,330	\$244,
tch West Indies.	\$5,226	\$9,033	\$73,625	40 \$46,739	\$7,728	153 \$142,351	Africa	\$2,116	\$6,713	\$49,561 26	\$19,576		\$77,
ench West Indies	\$5,000	\$7,954	\$4,015			33 \$16,969	Spanish Africa	\$450	\$880	\$21,630 28	\$8,629		\$31,
itian Republic	\$2,590	\$20,533	\$67,356	30 \$34,823	\$10,259	\$135,561	Other Countries		. \$3,167	\$21,928	\$13,428	\$12,963	\$51,4
rgin Islands	\$6,131	\$3,999	\$6,145	\$3,855		\$20,130	Totals	63,270 \$23,455,325	90,214	83,446	32,426	9,382	278,7



American Truck Exports___



	Total		1927		Total		Total		1927		_
Country	1926	Up to 1 Ton	1 to 2½ Tons	Over2½Tons	1927	Country	Total 1926	Up to 1 Ton	I to 2½ Tons	Over21/Tens	Tota 1927
Austria	12	8 007	21 226		9	Bolivia	76	11	53	2	
Azores & Madeira Island.	\$9,683 40	\$6,987 54	7		\$8,213 61	Brazil	\$107,557 5,886	\$9,775 10,093	\$83,093 898	\$6,557 70	\$99,4 11,0
Belgium	\$23,118 1,925	\$25,221 4,090	\$7,319 3/		\$32,540 4,123	Chile	\$2,701,098 753	\$4,412,561 526	\$773,334 273	\$164,262 56	\$5,350,1
Czechoslovakia	\$754,375	\$1,751,497 64	\$40,562	\$7,828	64	Colombia	\$896,212 1,299	\$184,009 305	\$404,036 701	\$162,508 96	
Denmark	3,289	\$25,613 7,443	124	2	\$25,613 7,569	Ecuador	\$1,534,315	\$223,215 29	\$1,158,730 33	\$278,381	\$1,660,3
Finland	\$1,444,138 //6	\$3,275,152 ///	\$151,221 140	\$3,840 5	\$3,430,213 256	Paraguay	\$19,577	\$15,661 74	\$47,821 10		\$63,4
rance	. \$155,049 107	\$83,965 297	\$187,148	\$15,139	\$286,252 300	Peru	\$32,752	\$25,902	\$12,270	\$4,812	\$42,9
	\$60,805 1.077	\$144,908 714	\$3,080		\$147,988		\$837,031	\$189,278	\$446,177	\$46,030	\$681,4
Germany	\$437,010	\$330,977	\$66,291	\$6,850	774 \$404,118	Uruguay	\$613,910	\$432,306	\$331,761	\$293,212	\$1,057,2
ireece	\$2,571	\$92,332	\$34,983	\$5,506	\$132,821	Venezuela	\$1,264,623	\$218,600	\$334,350	\$162,537	\$715,4
lungary	\$4,753	\$10,703	\$29,588	\$12,027	\$52,318	Aden		\$640	\$2,826		\$3,4
celand	\$598	\$2.754	\$4,329		\$7,083	British India	1,456 \$1,158,047	1,670 \$1,200,214	238 \$236,676	915 700	1,9
taly	2,291 \$594,244	\$53,713	\$10,208	\$4,028	\$67,949	Ceylon	393 \$405,240	184	157	\$15,700 3	3
.atvia	2		8		8	British Malaya	114	\$142,618 47	\$209,423 82	\$6,655 8	\$358,6
Malta, Gozo & Cyprus	\$1,935	00 440	\$8,469 6		\$8,469 10	China	\$168,310 890	\$36,128 373	\$103,492 91	\$18,421 6	\$158,0
Netherlands	\$1,062 217	\$2,448 22	\$4,462 125		\$6,910 148	Java & Madura	\$512,069 199	\$185,311 3,704	\$132,412 191	\$15,748	\$333,4 3,8
Norway	\$274,478 179	\$20,407 54	\$171,017 192	\$5,580 20	\$197,004 266	Other Dutch East Indies	\$190,834 119	\$1,820,906 134	\$194,816	\$1,713	
Poland & Danzig	\$252,078	\$41,113	\$273,676	\$66,326 2	\$381,115 7	French-Indo China	\$135,076	\$96,883 37	\$34,984		\$131,8
Portugal	\$3,000 126	\$4,487 542	72	\$6,340	\$10,827 6/5	Hejaz, Arabia & Irag	\$8,771	\$11,811			\$11,8
	\$83,909	\$259,824	\$83,240	\$2,200	\$345,264		\$30,495	\$114,471	\$7,533		\$122,0
Rumania	\$1,324	\$256,301	\$28.945	\$4,800	\$290,046	Hongkong	\$27,513	\$47,449		\$7,144	\$54,59
Russia	\$76,528	\$61,009	\$18,400	\$154,013	\$233,422	Japan	\$292,175	\$131,161	\$356,149	\$68,136	\$555,4
Spain	\$1,179,683	2,770 \$1,287,605	\$405,765	\$5,351	3,203 \$1,698,721	Kwantung	\$48,632	\$53,333	\$27,797	\$9,132	\$90,20
Sweden	367 \$372,875	\$215,205	373 \$455_064	\$10,957	\$681,226	Palestine & Syria	\$195,319	83 \$56,264	880,783	5	14
Switzerland	\$18,041	\$2,274	26 \$32,489		29 \$34,763	Persia	\$96,582	465	16	\$43,550 6	\$180,59
Turkey	63	\$95,423	9		\$110,738	Philippine Islands	1,246	\$88,935 1,091	\$18,729 382	\$37,130 26	\$144,79
Jnited Kingdom	\$36,603 4,895	5,184	\$15,315 261	30	5,475	Siam	\$677,696 10	\$454,476 58	\$403,119 19	\$51,494	\$909,08
rish Free State	\$3,018,500 26	\$2,321,693 27	\$328,573 8	\$57,743	35	Turkey	\$8,305 15	\$38,225 108	\$12,921		\$51,14
British Honduras	\$16,994 6	\$18,838 2	\$9,944 /		\$28,782 3	Australia	\$8,274 15,150	\$43,107 20,945	\$3,146 2.981	481	\$46,25 24,46
anada	\$4,304 3,024	\$913 1,398	\$1,000 2,454	362	\$1,913 4,214	New Zealand	\$10,329,966	\$10,075,881	\$3,342,807	\$942,486	\$14,361,17
Costa Rica	\$4,056,788	\$882,351 51	\$3,480,746 55	\$1,249,365	\$5,612,462 106	Other British Oceania	\$1,402,521	\$368,819	\$466,848	\$54,159	\$889,82
	\$56,506	\$36,196	\$70,366		\$106,562		\$15,329	\$4,998	\$4,248		\$9,24
iuatemala	\$320,277	\$28,163	\$184,169	\$13,288	\$225,620	French Oceania	\$4,105	\$2,104	\$700		\$2,80
londuras	\$27,979	\$26,876	\$24,326	\$7,750	\$58,952	Belgian Congo	\$117,258	\$23,132	\$1,218		\$24,35
licaragua	\$19,744	\$7,093	\$17,399	\$36,526	\$61,018	British West Africa	1,141 \$1,164,160	5251	1,831 \$2,151,515	90 650	2,35
anama	195 \$181,852	393 \$174,486	\$183,029	\$178,215	\$535,730	British South Africa	1,286	\$367,254	883	\$2,658 36	\$2,521,42
alvador	\$299,206	\$28,434	28	15	91	British East Africa	\$994,484 426	\$1,100,902 205	\$1,011,413 142	\$109,599	\$2,221,91 34
Aexico	2.202	1,250	\$60,615 386	\$53,870 59	\$142,919 1,735	Canary Islands	\$310,357 /7	\$138,737 25	\$147,304 20	\$2,559 13	\$288,60 5
Newfoundland& Labrador	\$2,032,327 21	\$689,359 21	\$547,644 2	\$222,879	24	Egypt	\$20,742 382	\$15,207 1,357	\$25,854 60	\$25,482	\$66,54 1,41
amaica	\$14,738 257	\$10,386 144	\$2,237 55	\$4,117 8	\$16,740 207	Algeria & Tunis	\$136,969 7	\$514,018	\$51,511		\$565,52
rinidad & Tobago	\$117,884 32	\$59,118 25	\$69,316 30	\$16,863 5	\$145,297 60	Other French Africa	\$2,582 446	\$4,918 /24	\$3,380		\$8,29
Other British West Indies.	\$37,398 73	\$18,561 65	\$36,199	\$21,047	\$75,807 117		\$194,479	\$40,225	\$65,170		\$105,39
Cuba	\$38,720	\$21,444	\$57,851	\$800	\$80,095	Liberia	\$12,421	\$19,719	\$49,924		\$69, 64
	\$1,393,771	\$594,701	\$612,453	\$740,465	\$1,947,619	Morecco	\$63,161	\$156,628	\$15,028		\$171,65
Dominican Republic	\$231,384	\$115,286	\$131,946	\$11,765	\$258,997	Portuguese East Africa	\$28,090	\$26,313	\$47,048	\$11,132	\$84,49
Outch West Indies	\$52,702	\$64,638	\$16,622	\$21,080	\$102,340	Othe: Portuguese Africa	\$100,007	\$77,816	\$17,619		11
rench West Indies	\$8,014	\$7,829			\$7,829	Spanish Africa	1	18	5.		\$95,43
laitian Republic	182	32	\$33 260	2000	55	Other Countries	\$1,075 252	\$16,786 46	\$5,514 . 38 .		\$22,30
irgin Islands of U. S	\$145,299 2	\$17,885 14	\$33,269 3	\$8,892	\$60,046 19		\$141,542	\$25,110	\$44,154		\$69,26
rgentina	\$913 2,473	\$5,014 8,943	\$3,455 1,178	\$5,309 433	\$13,778 10,554						
	\$2,197,126	\$4,175,389	\$1,914,208	\$1,158,827	\$7,248,424	Totals	66,783	85,663	17,517	2,276	105,4



Miscellaneous Exports



			BRITIS	SH (10 M	lenths)				NCH enths)	CANADA		AMER	ICAN	
COUNTRIES	CI	assis	Parts	Pa	ssenger	Tre	ucks	Cars	Trucks	Parts	Ele	etries	Airp	lanes
	No.	Value	Value	No.	Value	No.	Value	No.	No.	Value	No.	Value	No.	Value
Igeria and Tunis			£ 126					5,744	658					
rgentina	496		31,042	127	£43,883	16			86	\$391,164	2		1	\$8,87
ustralia	11,781	1,958,850	219,658	570	208,644	89	34,390	0.077		768,226		9,528	3	17,44
elgium,	13	6,875 61,996	19,795	50 28	11,196 7,916	70	64,985	3,977	312	36,369 120,587	12	14,000	2	28,00
razilritish Africa	102 545	207,560	34,192 153,057	1.722	341,903	246		199	1	325,436				16,23
ritish India.	235	88.015	216,674	2,154	505.089	259				289,208		0,220		
anada	104	59,577	18,949	56	22,720	203	486	2		200,200	38	102,287	26	196,72
evion	72	19,731	22,449	483	99,719	8	3,700			8,161	00	102,201	20	100,12
hina.	40	14,822	7,251	154	30,224	7	6,595			1,142	1	1.768		
enmark	6	3,912	24,513	122	34,483	3				21,468				
utch East Indies			711							190,070				
gypt	21	6,072	12,353	197	44,915	17				3,390				
ance	43	55,659	35,722	49	21,819	2	795			6				
ench Indo-China			50					1,509	154				*******	
ermany	22	6,670	46,115	191	30,738	6			235	110,735		4,012		
ish Free State	113	55,652	125,499	1,916	382,140	189	117,158			5,221				
aly	1	450	28,643	7	2,868			392	34					
pan	24	4,734	13,958	109	25,575	2	1,195		2	64,989	10	11,830	2	49,11
adagascar								247	100	688				
exico			318	2	468					50		13,296	1	10,00
orocco	2	280	72			2		1,256	292	19				17.05
etherlands	15	7,789	19,796	77	15,417	9	2,871		80.	1,553		4 840	3	17,07
ew Zealand	579	136,395	59,302	1,178	236,150	33	19,546	30		295,696		1,512		
orway	100	2,745	3,006	40	8,560	7	4 109	406	55	1,155	- 1	4,845		******
ortugal	123	16,162	9 008 20.685	78	14,156 739	38	4,165 51,452	400	99	506		4,755		
Issia	13 48	20,140	4,010	99	15.994	30	31,432			78,473	1	4,755		
am	182	6,199 29,698	16.023	155	45,456	8	4.632	6.158	766	629				
raits Settlements	295	76,599	42,709	1.207	224,474	19			100	334.319				
raits Settlements	12	7,065	6,253	37	7,120	10	10,000	3.464	250	1.076				
nited Kingdom.	12.	1,000	0,200	01	1,120			4,911	162	195,785		17,571		
nited States	11	9,147	3,909	36	28,110			206	3	130,892		11,011		
ther Countries	594	188.062	183,576	1.480	288,523	423	306,803		1,174	57.377		12,202	24	504,80
mer Countries.	001	100,002	100,010	1,100	200,020			0,101	-,	01,011		15,200		002,00
Totals	48 400	£3,212,207	04.080.404	10.005	£2,698,999	1.455	£910,762	10 000	4 075	\$3,434,390		\$207.040	63	\$848.26

Imports of Motor Cars Into U.S.

			No.	Value
1917		 	105	\$ 188,280
1918			105	75,136
1919			117	123,025
1920		 	926	1,026,518
1921			522	876,163
1922		 	483	802,888
1923		 	853	884,125
1924		 	604	841,524
1925		 	672	1,064,975
1926		 	813	1,352,984
1927		 	635	1,218,938
7	Cotal	 	5,835	\$8,454,556

EXPORTERS of automotive products to the Central European countries will be glad to hear that the old automotive directory published by Braunbeck in Berlin has been revived, a completely new and up-to-date edition just having come out. It comprises the addresses of all makers, dealers, repairmen, tank-stations, clubs, organizations, authorities, etc., having anything at all to do with motoring, aviation and motor boating in Germany, Austria, Holland, Jugoslavia, Luxembourg, Poland, Switzerland, Czechoslovakia and Hungary. The motor papers, experts and motor journalists are also included.

Information is also given respecting import duties, the organization of the various corporations connected with the automotive field and numerous other items of interest and importance. The publisher is Verlag Gustav Braunbeck, Berlin W. 35.

1926 Canadian Vehicle Exports

	PASSENGER		TR	TRUCKS	
COUNTRIES	No.	Value	No.	Value	
Aden	50	\$23,214	16	\$4,594	
Argentina	1,673	1,229,902	2	5,880	
Australia	6,758	2,000,581	1.481	484.086	
Belgium.	156	125,559	1,101	101,000	
Brazil	888	746,275			
British Africa	2,501	1,115,557	2,487	880,495	
British Guiana	90	47,913	26	7,599	
British India	5,987	2,998,814	5.644	1.989,586	
British West Indies, Other	110	52,450	18	7.050	
Canary Islands	77	48,864	64	24,659	
Ceylon	685	363,913	323	117,076	
Chile.	555	305,087	451	175,049	
China	250	215,660	16	6,170	
Colombia	446	308,624	532	215,260	
Cuba	84	91,932			
Denmark	74	82,231			
Dutch East Indies	1,968	1,175,887	509	149,331	
Dutch West Indies	39	22,978	41	15,788	
Egypt	787	408,286	362	140,349	
Finland	198	137,260	000	110,010	
France	34	28,438			
Germany	226	278,999			
Haiti	68	34,175	48	18,583	
Jamaica.	- 491	270,634	166	66,121	
Japan.	581	406,729	65	25,115	
Mexico	70	59,368	6	2,323	
Netherlands	69	40,404	9	2,020	
Newfoun dland	26	9,551	15	4,785	
New Zealand	1,385	738,861	335	113,669	
Norway	373	234,608	000	110,000	
Portuguese Africa	166	70,531	229	87,794	
Rumania.	1,127	529,314	408	158,069	
Siam	29	14, 189	362	108,009	
Spain.	3	3,264	302	100,000	
Straits Settlements.	889	389,848	418	131,726	
Sweden	320	215,501	210	101,120	
Trinidad & Tobago.	231	119,947	160	56,515	
United Kingdom.	6.946	5,303,072	295	85,415	
United States	237	71,694	4	5,757	
Uruguay	431	270,374	3	0,131	
Venezuela	428	217,966	578	224,521	
Yugoslavia.	187	89,436	66	24,858	
Other Countries.	2,207	1.264.978	2,387	935,894	
Other Countries	2,201	1,401,910	2,001	900,092	
Totals	39,900	\$22,162,868	17,514	\$6,272,126	

AUTOMOTIVE Philadelphia, Pennsylvania

NEWS

INDUSTRIES

February 18, 1928

Factories Increase Output to Meet Spring Sales Peak

PHILADELPHIA, Feb. 18—Production continues to be stepped up in many of the most important automobile factories. Although output is considerably in excess of retail sales, this is the normal condition for the season, as stocks are accumulated in anticipation of the spring buying peak. It is, too, apparently a fact that several producers are behind in retail deliveries, as a result in some instances of drastic price cuts and in others of delays in getting under production on new models.

On the whole, the situation appears more favorable than a year ago. Not only is the general activity greater, but prosperous conditions are more widely spread. A greater number of the factories are participating in the gains than was the case in 1927.

Current retail sales are largely the aftermath of the national automobile shows and the exhibitions that are now being held locally. After the subsidence of the show buying a lull is more or less expected until the spring demand begins to swell.

Each day that goes by without further price cuts considerably enhances the prospect that the present level will hold at least until the early summer. Spring price cuts are rare phenomena in the industry, as the best buying season is considered a poor time for such tactics.

Chevrolet Schedules 120,475 for February

DETROIT, Feb. 13—Chevrolet manufactured 91,584 units in January, breaking all records for that month, President W. S. Knudsen announced today. He revealed that the schedule of 120,475 units set for February will probably be exceeded. In March Chevrolet plans to manufacture 127,000 automobiles, he declared, bringing production for the first quarter to 331,059 vehicles.

According to R. H. Grant, vice-president in charge of sales, 125,000 Chevrolets have been sold at retail since the first of the year and he is confident that Chevrolet will sell 1,000,000 more cars this year.

Krauss Gilmer President

PHILADELPHIA, Feb. 15—The L. H. Gilmer Co. has announced the elevation of John S. Krauss to the office of president, succeeding L. H. Gilmer, former president and founder of the company 21 years ago, who becomes chairman of the board. Mr. Krauss joined the company as factory manager and has held progressively the offices of secretary and treasurer and later vice-president and general manager.

Ford Says Company Building 1000 Daily DETROIT, Feb. 13—Henry Ford is

DETROIT, Feb. 13—Henry Ford is quoted here as saying that Ford Motor Co. is now producing approximately 1000 cars a day, and that output will be increased to 2000 units a day toward the end of March.

"The new car is coming fine," Mr. Ford said. "You can't get a great plant overhauled and converted from one type of product to another in a day. It is easy to design a new car. It is a tremendous task to get into shape to produce it right in every detail and in great quantity.

"We are turning out approximately 1000 cars daily. We will be up to 2000 a day by the end of March, according to our present schedule. After that production will climb more rapidly.

"The removal of considerable machinery and many employees from the Highland Park plant to Fordson was a necessary step. But it is clearing the way for extended cloth and car body manufacture at Highland Park. It is a big plant, and a good one, and is near enough to Fordson to be kept active as one of the essential units of the business."

Willys Schedules 25,000

SAN FRANCISCO, Feb. 13—Production by Willys-Overland Co. will reach 25,000 in February and will approximate 40,000 in March, John N. Willys, president, said here en route for a two weeks' visit to Honolulu. Production of Whippets will run 65 to 75 per cent of the total production, he said. On his return from Honolulu, Mr. Willys will determine the site of the projected California assembly plant which is to have capacity for 125 cars a day.

Durant Sells Adams Axle

BLUFFTON, OHIO, Feb. 15—The Bluffton Mfg. Co. will begin moving its equipment March 1 to Findlay where the company has purchased the Adams Axle Co. plant from the Durant interests.

Aviation Problems Seen Near Solution

NEW YORK, Feb. 15—The fundamental remaining problems of aeronautics will be solved within this generation, according to the report of the Daniel Guggenheim Fund for the Promotion of Aeronautics covering the years of 1926 and 1927.

The report mentions the posting of prizes aggregating \$150,000 for the Safe Aircraft Competition, the establishment of a meteorological committee in Washington, with a view toward obtaining more complete weather information and making it available for commercial aviation and the appropriation of \$808,000 for general public education in aviation.

Hupmobile Production Exceeds 1927 Schedules

DETROIT, Feb. 13—Hupmobile production and retail sales are reported greater for this time of year than ever before by R. S. Cole, general sales manager. Output in the three months ending with January was 104 per cent larger than for the same months a year ago. Last quarter shipments showed an 87 per cent increase over the 1926 period.

January output was 31 per cent over last January, Mr. Cole said, but retail deliveries exceeded production by more than 400 cars. February output will materially exceed January, he said, while March output is expected to be the greatest single month in the company's history.

Postal Receipts Gain

WASHINGTON, Feb. 15—Postal receipts of the 50 largest industrial cities during January increased 3.66 per cent, according to figures of the Post Office Department, comparing current receipts with receipts for January, 1927. Total receipts for January of this year were \$3,437,816. The increase of 3.66 per cent is regarded by the Department as indicative of general business conditions.

Oakland Raises Schedule

DETROIT, Feb. 15—Oakland Motor Car Co. is increasing its production schedule for February from 22,268 cars as originally planned to 25,000 units. The increase is made necessary because of the large number of additional orders, says Mr. W. R. Tracy, vice-president in charge of sales.

New Citroen Model Drops Accessories

Price Reduction of 3000 Francs is Made to Meet Demand From Buyers

PARIS, Feb. 7 (by mail)—A cut of 3000 francs has been made by Citroen by marketing what he terms a semiluxury model. In making this announcement Citroen explains that numbers of prospective clients have asked that many of the accessories usually supplied be abolished in order to get the selling price down. This has been done, with the result that the four-door sedan, which normally sells at 25,600 francs, is now offered at 22,600 francs, the only difference being that the cheaper model has fewer accessories.

This move is enthusiastically approved by dealers and accessory makers, for the lower price makes car sales easier and most of the accessories taken off are usually sold later at a much greater profit than if they had been purchased with the car. While Citroen seeks to disguise the cut by designating the new type a "semi-luxury" model, the trade generally sees nothing more than an important price reduction in order to checkmate Ford, who is just coming on the French market again. Ford price for the four-door sedan is 31,700 francs, or 9,100 francs more than the Citroen.

Colored Top Materials Developed by duPont

WILMINGTON, DEL., Feb. 14—Sportop Fabrics, a recent development of the Fabrikoid development bureau of E. I. duPont de Nemours & Co., Inc., has been announced as a new type of top material to harmonize with advance color schemes now bing applied by the automobile industry. The duPont company believes that this new product will give motor car builders full reign in the modern color designs which this year distinguish the new cars.

Cadillac Schedules 50,000

DETROIT, Feb. 11—Many interesting facts and figures about the organization of Cadillac Motor Car Co. were outlined by President L. P. Fisher in addressing 1000 employees at their banquet in the General Motors Building. The banquet, an annual affair, is given for those who have completed five or 10 years in the service of the company.

Commenting on business, Mr. Fisher declared that 1927 had been by far the biggest production year in Cadillac's history and that the 1928 schedule calls for 50,000 La Salle and Cadillac cars.

To Make Jorgenson Primer

MILWAUKEE, Feb. 11—Manufacture of the Jorgenson primer for motor cars, trucks, tractors, etc., will be re-

sumed, along with other automotive parts and specialties, in the plant of the former Acme Bræss & Metal Works at Waupaca, Wis. The property has been purchased by J. E. Fuller and associates of Rockford, Ill., together with patent rights on the primer. The plant is being overhauled, a complete gray iron casting department established in connection with the brass and aluminum furnaces, and the nickeling department remodeled and enlarged.

St. Louis Show Crowds 20,000 More Than 1927

ST. LOUIS, Feb. 12—Ending a week of record-breaking attendance, the twenty-first annual St. Louis Automobile Show closed last week. Paid attendance for the week ran over 125,000, or about 20,000 more than last year, the previous record-breaking show. General expressions of satisfaction were heard due to the gratifying number of sales. An unusual group of prospects were also listed during the week and a large number of additional sales are anticipated in the near future.

K. C. Expects 250,000 Crowd

KANSAS CITY, Feb. 15—Attendance for the Kansas City show now in progress is expected to reach 250,000, a record total. Many leading executives are attending, among whom are C. W. Nash, Ray A. Graham, Capt. E. V. Rickenbacker, L. G. Peed, George C. Hubbs, Forrest Akers, C. W. Tucker, Paul G. Hoffman, N. E. McDarby, and Walter Evans.

Buick Sales Increasing Normally, Says Churchill

FLINT, Feb. 11—The business outlook for the spring months is very satisfying and there is every indication that sales will at least maintain their normal averages, declared C. W. Churchill, general sales manager of Buick Motor Co., in discussing sales outlook. Mr. Churchill said that Buick's sales are maintaining their usual seasonal trend which is upward and he has every reason to believe that both the Buick Motor Co. and the Buick dealer organization will enjoy a very satisfactory sales volume.

N.S.P.A. Adds 5 Companies

DETROIT, Feb. 15—Five new manufacturing members have been elected by the National Standard Parts Association. They are Advance Packing & Supply Co., Chicago; Belden Mfg. Co., Chicago; Champion Pneumatic Machinery Co., Chicago; Hempy-Cooper Mfg. Co., Kansas City, and the Moto Meter Co., Inc., Long Island City.

Sales Conference in Cleveland CLEVELAND, Feb. 14—The Society for the Interchange of Merchandising Ideas will hold its second annual conference at Nela Park, this city, Feb. 27 and 28. The purpose of the conference is to study the facts revealed by the retail census of 14 typical communities.

Business in Brief

Written exclusively for AUTOMOTIVE INDUSTRIES by the Guaranty Trust Co.

NEW YORK, Feb. 16-Improvement in the basic industries during the past week was reflected in a stronger tone in the financial markets. Stock prices declined early last week, but recovered somewhat following lower call money rates on Thursday. Total value of construction contracts awarded during January in 37 states east of the Rocky Mountains, according to F. W. Dodge Corp., amounted to \$427,168,700. This is the largest January total to date and is 11 per cent greater than that of January last year and 11 per cent below the December total.

FREIGHT CAR LOADINGS

Railroad freight car loadings in the week ended Jan. 28 increased, numbering 902,832, as compared with 884,095 in the previous week and 943,-879 in the corresponding period last year. Total loadings for the year to date amount to 3,447,723 cars, as against 3,756,660 a year ago and 3,686,696 two years ago.

PETROLEUM OUTPUT

Production of crude petroleum rose in the week ended Feb. 4, average daily output being 2,366,300 bbl., which compares with 2,355,2550 bbl. a week earlier and 2,402,400 bbl. in the corresponding period last year.

FISHER'S INDEX

Professor Fisher's index of wholesale commodity prices rose last week to 97 as against 96 in the preceding week and 95.1 four weeks earlier.

BANK DEBITS

Bank debits to individual accounts, as reported to the Federal Reserve Board for the week ended Feb. 8, were 4.5 per cent under the total of the previous week though 16.5 per cent greater than the amount reported in the like period last year.

FEDERAL RESERVE REPORT

For the same interval the Federal Reserve banks reported that reserves increased \$14,400,000, discounts \$35,-400,000 and note circulation \$7,200,-000. Open market purchases were reduced \$8,100,000, U. S. Government securities \$32,300,000 and deposits \$6,700,000. Member banks reported that in this period loans and discounts declined \$61,197,000, investments \$22,085,000 and demand deposits \$199,991,000. Borrowings from the Federal Reserve banks rose \$42,442,000.

Both time money and commercial paper rates were firmer last week at 4½ to 4½ per cent and 4 to 4½ per cent, respectively.

Lang Plant Taken Over

RACINE, Feb. 11—The metal stamping and hardware specialty plant of the R. B. Lang Mfg. Co. has been purchased at assignee's sale by the Gold Medal Camp Furniture Co. of Racine, which will continue its operations.

Better Dealers Aim of NewN.A.D.A. Head

Will Seek More Active Cooperation With Factories, Says C. C. Coddington

CHARLOTTE, N. C., Feb. 13—Better dealers will be the principal aim toward which the activities of the National Automobile Dealers Association will be directed this year, declared C. C. Coddington, of Charlotte, Buick distributor for the Carolinas, in a discussion of his plans for his term in office as president of that organization.

The hope was expressed by Mr. Coddington that the association will be able to bring about more active cooperation both between the dealers and between dealers and manufacturers. He indicated his opinion that one of the outstanding problems of the N.A.D.A. is to develop the merchandising and business policies of the dealers to a degree that they will be in keeping with the magnitude attained by the industry as a whole in the nation's business. The new president said he expects to give "quite a bit" of his time during the year to travel for the national association. During this traveling he expects to advocate the general efforts of the association to raise the level of the dealers' administrative and operating policies.

Whenever possible, the direction of the work will be done through General Manager Vane. Several conferences recently have been he!d and others soon will be held here with officials of the association for the purpose of discussing the year's work. Much of Mr. Coddington's personal work for the association will be done through addresses and conferences at state conventions of dealer organizations.

Bell Named President of Screw Machine Body

BUFFALO, Feb. 13-David Bell, of the David Bell Co., Inc., this city, was elected president of the Screw Machine Products Association, with central offices here, at the fifth annual meeting in Chicago. Sam G. Eastman, of the Belvidere Screw & Machine Co., Belvidere, Ill., was named vice-president; J. H. Fischer, Fischer Special Mfg. Co., Cincinnati, treasurer; John S. Cochran, Mac-It Parts Co., Lancaster, Pa., secretary of the board of directors, and Malcolm Baird, field secretary. New directors are John S. Cochran, F. H. Fischer, Fischer Special Mfg. Co., and Joseph J. Hagen, Western Screw Products Co., St. Louis.

Ray Day Now in Detroit

DETROIT, Feb. 11—Ray Day Pistons, Inc., which has been manufacturing pistons on the Pacific Coast, has moved its factory to Detroit and is now located in a plant recently acquired.

Pontchartrain Bridge is Five Miles Long

NEW ORLEANS, Feb. 14—The Pontchartrain Bridge across the east end of Lake Pontchartrain at a point about 20 miles east of New Orleans, will be opened for traffic this week. The bridge proper is five miles long and is the longest continuous reinforced concrete highway bridge in the world. With its 10 miles of approaches it cost \$5,500,000. A toll of \$1.35 per car will be charged.

The opening of the bridge will shorten the mileage to the Mississippi Coast, Florida and other eastern points eight miles. With its completion the last of the ferries on the Old Spanish Trail east of New Orleans are eliminated.

Ayres Says Industry Starting Fairly Well

CLEVELAND, OHIO, Feb. 11—Improvement in the automobile industry for the first month of the year has kept pace with that in the steel industry, Col. Leonard P. Ayres, of the Cleveland Trust Co., reports in his February business bulletin.

"If the old barometer, the blast furnace, is holding true to form. January marked the beginning of business recovery," he said. "Sixteen blast furnaces were brought back into production during the month. In the automotive industry the improvement is almost as marked. The total figures are not notably large, however, because the great Ford plants are still producing on a most restricted basis. The year is starting off fairly well for the industry, with production increasing rapidly, but with competition keen, and with profit margins probably pretty narrow for most companies.'

Siko-Lite Plant Moved

MERIDEN, CONN., Feb. 11—Siko-Lite Corp., manufacturer of patented headlight non-glare bulbs, has removed to Unionville, Conn. B. C. Rogers, general manager, has resigned. Prior to Mr. Rogers' connection with Siko-Lite he was for many years with the Connecticut Tel. & Electric Co., this city.

Canada Chrysler Builds

WINDSOR, Feb. 13—John D. Mansfield, president of the Chrysler Corp. of Canada, Ltd., has announced that the company will spend approximately \$300,000 on two additions to the factory here, and it is expected that the end of February will see the completion of the building program in time to handle a greatly increased production.

Reeves Says Style Biggest 1928 Factor

Price Less Important He Tells New York Automotive Association

NEW YORK, Feb. 11—Price will be a less important factor in determining the successful sale of automobiles during 1928 than heretofore on account of the increasing demand for style in cars, Alfred Reeves, general manager of the National Automobile Chamber of Commerce, told 900 dealers and salesmen at the annual banquet of the Automotive Merchants Association of New York, Inc., at the Plaza Hotel this week.

The success that Mr. Reeves looks for in 1928 will be dependent upon three factors: performance, convenience and style, with style probably contributing 60 per cent, he said. Among the factors that make Mr. Reeves confident that 1928 will be a successful year for automobile sales are that the public wants to buy and that this year manufacturers have produced the most salable products in the history of the industry and at the lowest price.

Record show attendance is another factor which Mr. Reeves takes as an indication of the general interest and general increase of purchasing power, the lack of inflation and the greater attention which manufacturers are paying to distribution are also favorable conditions which will make 1928 a successful sales year.

There will be no price war and the price situation will be greatly stabilized by the rapidly growing outlets for American cars in foreign markets. There is no need to fear the old bugaboo of presidential election, Mr. Reeves said.

A. G. Southworth, New York Buick distributor and retiring president of the association, told members of the growth and activities of the association and intimated that it was the duty of the organization to work with state and city departments and be helpful to them in solving the many difficulties connected with automobile traffic control. The measure of success of the automotive dealer is determined by the manner in which he serves, Mr. Southworth declared.

Wood Sees Good Truck Year

DETROIT, Feb. 11—The Wood Hydraulic Hoist Co. held its fifth annual sales meeting at the factory this week. "The company enjoyed very satisfactory business in 1927," declared George Dewey, general sales manager, who predicted that 1928 will probably be one of the greatest years in the company's history. "A general quickening in business and especially a number of large projects including large road-building programs give indication that demand for dump trucks should be keen," he said.

Ritchie Takes Post as Yellow Chairman

Company Shows Net Loss of \$6,858,691 in 1927 Due to Writeoffs

NEW YORK, Feb. 11—John A. Ritchie, formerly vice-chairman of Yellow Truck & Coach Mfg. Co., has been elected chairman, succeeding John D. Hertz, who resigned recently to again head the Chicago Yellow Cab Co., Inc., Mr. Ritchie, a former president of Yellow Truck & Coach, has been identified prominently with bus and truck operation and manufacturing for many years. He is also president of the Omnibus Corp., New York.

The consolidated income statement of Yellow Truck & Coach Mfg. Co. for 1927 showed a net loss of \$6,858,691 as against profit of \$1,125,922 in 1926. After dividends on preferred, deficit was \$7,908,691 as against \$627,578 in the former year.

Paul W. Seiler, president, said the poor showing in 1927 was due to severe writeoffs in asset values necessary in connection with the obsolescence of products no longer in current production, developing new lines of product and consolidating manufacturing operations in the new plant at Pontiac. Further writeoffs were made in accounts receivable of \$5,641,605, he said.

Operations are now getting under way in the new plant, Mr. Seiler said, and some further operating losses will be realized in the early months of 1928. The company, however, should soon realize many economies as a result of the concentration of operations, he said, and should also benefit by the improvements in and additions to its line of products.

The quarterly dividend due at this time was omitted, and in connection with this a statement was issued saying that General Motors Corp. had authorized an offer of \$93 in cash for each share of preferred, the offer to close May 10.

Will Build P. S. Buses in New Pontiac Plant

PONTIAC, Feb. 14—Announcement has been made by Yellow Truck & Coach Mfg. Co. of receipt of an order for 331 gas-electric, single deck buses from the Public Service Transportation Co., a subsidiary of the Public Service Corp. of New Jersey. This will bring the total number of Yellow buses operated by the Public Service company to 850, out of a total of 1353 buses of all makes acquired by this company from 1923 to date. The new buses will be produced in the new factory here.

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Electrical equipment will be supplied by General Electric Co. and the bodies will be built in the Newark shops of Public Service. First deliveries of the new buses will be made about April 1.



John A. Ritchie

Who has succeeded John D. Hertz as chairman of the board of Yellow Truck and Coach Mfg. Co.

Thornycroft Penetrates Canadian Truck Market

OTTAWA, Feb. 13—The Ottawa automobile show saw the introduction of Thornycroft motor trucks in the Canadian capital by Thornycroft (Canada), Ltd., an organization subsidiary to the John R. Thornycroft & Co., Ltd., London, England.

Thornycroft has made considerable progress in Canada from the company's base of operations at Montreal, where a large stock of spare parts is carried for service requirements. No less than 43 Thornycroft trucks have been supplied to the T. Eaton Co., Ltd. Thornycroft trucks have also been sold to the Hudson's Bay Co., the Shell Co. of Canada, Ltd., the Imperial Oil Co., Ltd., and others.

New Moto Meter Models for Ford and Chevrolet

NEW YORK, Feb. 13—The Moto Meter Co., Inc., is offering two new improved heat indicators applicable to the new Ford and Chevrolet cars. The Ford indicator is known as the Junior Boyce Motor Meter and the Chevrolet as the Universal Boyce Moto Meter. Both are of the Radiator type and have a laurel wreath ring design and gold dials. The dealer's name is engraved in gold immediately below the indicator reading. The Red Ball Boyce Moto Meter is now available for dash or steering column installation.

N.A.P.A. Sales Increase

DETROIT, Feb. 14—National Automotive Parts Association reports that several manufacturers distributing through its members show increased sales in January of 11 to 40 per cent over the same month last year. January business in 1927 was 4.9 per cent higher than in January, 1926, but December, 1927, showed an increase of 34.03 over the previous December.

Detroit Registers Largest 1927 Drop

Pittsburgh Only Large City in Group of Eighteen to Show Increase

DETROIT, Feb. 11—According to figures compiled by the Michigan Automotive Trade Association, Pittsburgh was the only large city in a group of 18 which registered a gain in automobiles sales in 1927 compared with 1926. Pittsburgh's gain was four per cent while Detroit suffered the heaviest loss with a decline of 32 per cent. The Detroit situation, however, can probably be largely attributed to the continued inactivity of the Ford industries, resulting in a sharp curtailment of money circulation in Michigan's metropolis.

The figures follow:

			Pct. of
City	1926	1927	Decrease
Akron	10,916	9,664	11
Baltimore	16,668	13,727	17
Buffalo	23,330	19,258	17
Chicago	84,008	70,514	16
Cincinnati	16,910	14,913	11
Cleveland	38,722	32,170	17
Dallas	11,825	8,665	27
Detroit	77,913	52,593	32
Indianapolis	15,006	12,419	17
Kansas City	16,389	14,574	11
Los Angeles	82,442	71,654	13
New York City	88,225	79,564	10
Philadelphia	38,795	33,804	12
Pittsburgh	18,518	19,232	Gain
Rochester	14,812	11,959	19
St. Louis	26,785	21,702	19
Syracuse	8,672	7,766	10
Toledo	10,969	9,352	14

Michigan Sales Off 54,601

DETROIT, Feb. 11—Total new passenger car sales in Michigan for the year 1927 totaled 141,161 units compared with 195,762 for 1926, according to figures compiled by the Michigan Automotive Trade Association. The figures show that December sales totaled 5875 cars compared with 9015 for December, 1926. Ford's total sales for the year were 15,226 compared with 64,225 for the previous year. New Ford deliveries for December totaled 321.

Truck sales in Michigan totaled 14,-623 units in 1927 of which 1278 were registered during December.

Buick Sells 17,000 Down East

BOSTON, Feb. 11—Noyes-Buick Co., distributor for Buick in the New England territory, announced that the figures just compiled for 1927 new car sales show that the company marketed 17,000, the largest new car registration ever reached by Buick in the New England territory.

Velie Signs New Dealers

MOLINE, Feb. 14—Velie Motors Corp. reports the signing of seven new distributors and 19 new dealers up to Feb. 1. The new contracts were signed in practically all sections.

Men of the Industry and What They Are Doing

Oakland Officials Hold Supervisors' Conference

A conference by home office executives of the Oakland Motor Car Co. was held here this week with 88 district supervisors from key cities in the United States. The supervisors' department was created Jan. 1 to assist district managers and those attending the sessions were supervisors of distribution, of advertising, of sales development and fleet sales and of service. The supervisors of dealer accounting will come to Pontiac as a separate unit later for a similar conference.

During the three days, sessions were held by Waldo E. Fellows, director of advertising; W. E. Fleming, assistant manager of sales development; E. F. Carlson, assistant manager of fleet sales; Hugh Higginbottom, manager of distribution, and R. A. Armstrong,

service manager.

Stone Named President

Charles E. Stone, since 1924 vice-president of the Interstate Drop Forge Co., Milwaukee, has been elected president. He was formerly associated with the Chain Belt Co., Milwaukee, first as purchasing agent and later as assistant to the president, C. R. Messinger, whom he now succeeds as head of the Interstate company. The concern is affiliated with a group of industries, including the Chain Belt Co., Federal Malleables Co., and Sivyer Steel Casting Co., Milwaukee.

Erskine Cuban Delegate

A. R. Erskine, president of the Studebaker Corp. of America, will represent the American automotive industry at the second Cuban Highway Congress to be held Feb. 22 and 23 at Havana. John N. Willys, chairman of the foreign trade committee of the National Automobile Chamber of Commerce, was the official representative but he finds that he will be unable to attend.

George F. Bauer, secretary of the foreign trade committee of the National Automobile Chamber of Commerce, sailed Feb. 11 to attend the congress.

Rockwell Talks to S.A.E.

F. W. Rockwell, president of the Wisconsin Parts Co., Oshkosh, Wis., manufacturer of axles and other automotive units, was the principal speaker before the February dinner meeting of the Milwaukee Section of the Society of Automotive Engineers.

Miller Succeeds Dodge

F. N. Dodge, sales and advertising manager of J. C. Haartz Co., New Haven, Conn., has resigned. J. G. Miller, formerly assistant salesmanager, succeeds him. Salisbury Gets Cross of Legion of Honor

The French Government has conferred the Cross of the Legion of Honor on Edward V. Salisbury, general manager of the European branch of the Campbell-Ewald Co., in Paris, in recognition of his service in the American ambulance service during the war. Even before the United States' entrance into the war, Mr. Salisbury was honored with the Croix de Guerre, having served in the French army.

Hubbard Joins National Acme

Guy Hubbard has resigned as associate editor of Mechanical Engineering. New York, to become advertising manager of the National Acme Co. He will also cooperate in engineering and sales activities. Mr. Hubbard began his active association with the machine tool business in 1915 with the Windsor Machine Co., Windsor, Vt. As a member of the headquarters staff of the American Society of Mechanical Engineers, Mr. Hubbard has been concerned primarily with matters related to machine tools and production. He is a director of the Machine Tool Congress of the National Machine Tool Builders'

Stearns Builds Oil Engine

F. B. Stearns, who organized the F. B. Stearns Co. during the early years of the industry and sold out his interest in the company to John N. Willys some years ago, has been working on oil engines for some time and recently completed a 200 hp. engine working on the two-stroke principle. It has 6 by 8 in. cylinders. Mr. Stearns is now at work on the second and third engines of this type.

Kiefer Joins World Bestos

A. D. Kiefer has joined the sales staff of World Bestos Corp., and will cover the northern territory, operating out of Minneapolis. Joseph M. Grace, who has been covering New York City territory, has been transferred to St. Louis and will cover nearby points in that district.

Durant Names Heltsinger

Durant Motors, Inc., has appointed G. M. Heltsinger, ex-president of the Tampa Automobile Dealers Association, as representative of the Durant and Star lines on the west coast of Florida. Mr. Heltsinger has been handling the Star and Nash franchises in Tampa for some time.

Lower Car Weight Needed, Savs Sir Herbert Austin

Sir Herbert Austin, chairman of Austin Motor Co., Ltd., Birmingham, England, who is spending several weeks in this country, was an interested observer of car styles during the New York automobile show. He said there was a pronounced lack of novelty in body design as compared with European styles of today; also a dearth of what he describes as improved niceties in chassis design and layout.

He thinks there is not sufficient attention being given to the reduction of total car weight, and that in the endeavor to assist sales and tempt buyers, the American car manufacturer is giving a very big car for a very low price. Sir Herbert would welcome some form of international competition that would focus the attention of manufacturers on the subject of producing lighter cars without sacrificing power, riding com-

fort or speed.

Hambly Goes Abroad

As a result of an unusually large volume of orders received for the new Marmon models from the European market, Frank L. Hambly, export manager of the Marmon Motor Car Co., has departed on a two months' trip abroad to facilitate shipments of Marmon straight-eights to the European distributing organization.

Dowd Joins Russell

Raymond A. Dowd has resigned as engineer in charge of automobile accessories for the American Bosch Magneto Corp. and will go to the New York office of the Russell Mfg. Co. of Middletown, Conn., where he will devote himself to development work on shock absorbers for airplanes.

Stout Officers Reelected

Officers of the Stout Air Services, Inc., operating the Detroit to Cleveland air line and also sight-seeing lines at the Ford airport, have been reelected. They are William B. Stout, president; William B. Mayo, vice-president; Glenn H. Moppin, secretary; George M. Holley, treasurer, and Stanley E. Knauss, general manager.

Merkle Goes Abroad

C. R. E. Merkle, head of the Flint plant of the E. I. duPont de Nemours & Co., Inc., is leaving on a business trip of several months abroad. Previous to his departure, 50 department heads of the Flint plant held a banquet in his honor at Hotel Durant in Flint.

Firestone Promotes Leach

E. C. Leach has been promoted to eastern division sales manager in the sales department of Firestone Tire & Rubber Co., it is announced.

U. S. Chamber Plans Wholesaling Study

Will Organize Permanent Committees to Collect Merchandising Information

WASHINGTON, Feb. 15—A program for study of the functions and practices of the wholesaler, and of the abuses connected with wholesaling, was laid down at the national wholesale conference held here under the domestic distribution department of the Chamber of Commerce of the United States. Permanent committees are to be organized to collect information of value to the wholesaler, and the results of investigations will be presented at later meetings of the entire group.

About 250 wholesalers and representatives of trade associations were present, several of whom were concerned with the automotive trade, including Harry G. Moock, Greater Market Development, Automotive Equipment Association; F. B. Caswell, Champion Spark Plug Co.; N. Field Ozburn, past president, A.E.A.; John J. Hall, zone manager, G.M.D., and several leading wholesalers.

O. H. Cheney, vice-president, American Exchange Irving Trust Co., declared that although wholesaling would always be an essential part of the distribution system of the country, wholesalers must give study to means of adapting themselves to changes in the conditions of distribution and new forms of distribution.

Smith Frame Production Shown to Detroit S.A.E.

DETROIT, Feb. 14 — Building of automobile frames by automatic machinery was the subject last night at the Detroit Section meeting of the Society of Automotive Engineers. A paper was presented by J. P. Kelley, sales manager of the A. O. Smith Corp., Milwaukee, accompanied by a motion picture showing the automatic plant and its units in operation.

Following the regular session a meeting of the automobile body men was held during which a section body division was organized. W. N. Davis of the Cadillac Motor Car Co. was elected vice-chairman of the Detroit Section in charge of the body division, and C. B. Parsons, president of the Parsons Mfg. Co., was elected chairman of its meetings committee.

Navy Buys Hornet Engines

WASHINGTON, Feb. 15—A contract for 96 air-cooled airplane engines to cost \$1,059,850 was awarded this week to the Pratt & Whitney Aircraft Co. by the Navy Department. The engines, known as the Hornet type, with nine cylinders developing 525 hp. at 1900 r.p.m., are to be used in the Martin planes of the Navy.

Half of U.S. Rubber from British Malaya

AKRON, Feb. 11—Despite England's heavy restriction of her crude rubber, more than half of America's 1927 supply, 252,773 tons, came from British Malaya, it was revealed in Department of Commerce figures sent to Akron rubber plants. Total crude rubber imports were 425,142 tons. liquid latex imported totaled 1079 tons from Malaya, while the total import of latex was 1116 tons.

Rubber Investigation Brings Price Upset

NEW YORK, Feb. 14—Violent fluctuations characterized the rubber market last week, due to the announcement by the British Premier of the appointment of a special committee to make recommendations on the advisability of retaining or abolishing the Stevenson restriction law, according to F. R. Henderson Corp. These fluctuations resulted in the loss of nearly four cents a pound in price during the week.

A new record in trading volume was established Feb. 9, when 2671 lots, or $6576\frac{1}{2}$ tons, were traded in.

Says No Shortage Likely

NEW YORK, Feb. 16—Speaking at the annual dinner of the Rubber Exchange, F. R. Henderson said there is no fear of a rubber shortage even though the Stevenson Act is continued. Economics rather than politics will control output, he said. With the normal increase in consumption and the planning of new uses for rubber, the world must plant more trees, Mr. Henderson declared. He said America would gain independence with regard to rubber through planting its own trees.

Stamping Makers Meet

BUFFALO, Feb. 16—An organization meeting of the Association of Pressed Metal Manufacturers will be held at the Cleveland Athletic Club, Feb. 28. This meeting follows a meeting of a group of stamping manufacturers in Cleveland in January at which W. S. Galbreath, president of Youngstown Pressed Steel Co., was elected temporary chairman.

Bellows Back in Field

CLEVELAND, Feb. 15—Warren S. Bellows, formerly owner and manager of Walden-Worcester, Inc., has returned to the automotive field after an absence of several years, as manager of the Hodell Tire Chain Division of the Chain Products Co., this city.

Higher Steel Prices Waiting Buying Test

Conflict With Industry Seen When Mills Would End "Profitless Volume"

NEW YORK, Feb. 16—The ultimate fate of the higher prices, recently announced by sheet and strip-steel producers still hangs in the balance. Veteran steel market observers express some doubt as to whether mills will not be hungry for fresh business long before consumers have worked up the tonnages which they contracted for at lower prices when the producers first began to forecast advances.

Much smoothing of the ragged edges of marketing is looked for from a more rational alignment of both sheet and strip producers in one organization. The thought that flat steel, whether turned out on a sheet-mill or a stripmill is much the same commodity, is beginning to bear fruit.

The U. S. Steel Corp. unfilled tonnage statement, showing a gain of 300,000 tons and the heaviest backlog in two years, is fairly representative of present conditions in the industry. Shipments of full-finished automobile sheets, fender stock, automotive alloy steels run impressively heavy, but steel producers as a whole are beginning to complain of "profitless volume" and their efforts are centered in correcting this condition as speedily as possible.

As one observer puts it, it will call for a special brand of courage to put these price advances across with automotive consumers, geared as the latter are to resist anything and everything that spells higher costs.

Pig Iron—Blast furnace interests are making every effort to lift prices to higher levels, but so far Michigan deliveries of foundry and malleable appear to be still available at \$17.50 @ \$18.

Aluminum—Sellers are somewhat disappointed by the rather slow pace of automotive demand. The market, in all of its departments, holds steady.

Copper—The market is holding its own. Consumers are inclined to be offish, but producers are not pressing any metal for sale, and there appears to be virtually no metal in second hands.

Tin—As the result of heavy declines in foreign markets, the price of tin has receded to the lowest levels in three years.

Lead—Threatening competition of foreign bullion lead and a sharp break in London caused the leading interest to announce a \$3 per ton reduction immediately preceding the holiday. Storage battery demand is light.

Zinc-New features are lacking. The market rules quiet.

Roberts Named Executive

DETROIT, Feb. 13—Glendon H. Roberts has been elected secretary and treasurer of the Detroit Stamping Co. He is the son of the late W. H. Roberts who was president of the firm and who has been succeeded as head of the company by Fred Haskel.

Canada Farmers Ask Further Duty Action

Seek Admission Duty Free of All Cars Costing Less Than \$1,000

OTTAWA, Feb. 13 — Automobile manufacturers of Canada are deeply concerned over the demand of the farmers of Saskatchewan, backed up by United Farmers and Progressive members of the Canadian Parliament, that automobiles costing less than \$1,000 shall be admitted to Canada free of duty. It is pointed out in government circles at Ottawa that a least five of the popular low-priced cars would be materially affected if the request of the United Farmers were granted.

Other industries are also involved in the Farmers' proposals, which have been placed before the Federal Minister of Finance, Hon. J. A. Robb. If the agrarians had their way, there would be no duty on Canadian imports exceeding 12 per cent and there would be free trade with Great Britain within five years. The British preference would be increased to 50 per cent immediately.

Imports of automobiles into Canada have steadily increased since the last reduction in the Canadian tariff in April, 1926, and the Canadian manufacturers of low-priced cars would probably lose more business lif automobiles costing less than \$1,000 in Canada were to be placed on the free list.

Canadian Imports Rise 28% in 1927

OTTAWA, Feb. 13—Statistics prepared by the Canadian Department of Trade and Commerce regarding automobile production and sales in the dominion during 1927, show that for the 12 months of 1927, the cumulative Canadian production totaled 179,383 cars, as against 205,116 in 1926, the record year, and 162,221 in 1925. Last year's production was 10 per cent greater than in 1925 and 34 per cent higher than in 1924.

It is pointed out that automobile imports into Canada during 1927 were 36,360, as compared with 28,535 for 1926, a difference of 28 per cent. Exports declined 23 per cent to 57,793 from 74,553. The domestic consumption of cars in Canada is determined by deducting the exports from the sum of Canadian production and imports.

In Canadian production for 1927, closed passenger cars totaled 100,150, as compared with 82,341 for 1926. Output of open passenger cars decreased to 37,517 from 70,027; trucks to 21,739 from 29,365; chassis to 19,948 from 23,230, and taxicabs and buses dropped to 29 from 153 for 1926.

The value of the 179,383 automobiles produced in 1927 was \$117,569,132.

British Industry Increases Output

WASHINGTON, Feb. 15-Preparations for increased production are being made by British automobile manufacturers in anticipation of a heavy spring demand, according to advices received by the automotive division of the Department of Commerce from the trade commissioner in London. Improvements in the retail motor industry are reported since Christmas and importers of leading American cars reported record sales during January.

Soviet Plans Manufacture of 12,000 Cars Annually

WASHINGTON, Feb. 11—The Bureau of Foreign and Domestic Commerce is advised by cable that the Moscow Municipal Council has decided to build an automobile plant in Moscow to cost from 40,000,000 to 50,000,000 rubles (one ruble equals 51.4 cents), the plant to have an annual production of 10,000 to 12,000 light cars.

The department understands that the type of car which the concern will manufacture is to be selected from among the existing foreign makes and will probably be manufactured under a license arrangement. A special commission has been appointed and will soon leave for abroad to purchase equipment for the new plant. The department is not advised whether the commission is to come to the United States, but it is regarded as likely that it will.

Lower Car Prices Reduce Motorcycle Sales Abroad

WASHINGTON, Feb. 15—The ninth international motorcycle show, held in Milan from Jan. 5 to 15, attracted 94 exhibitors, but one of which was American. English models predominated and the motorcycle industry as a whole, is reported to be in a crisis. The determining factor affecting the motorcycle trade, according to advices to the Department of Commerce, has been the low-priced motor car and if further reduction in automobiles takes place, the Department is informed, the future market for motorcycles appears to be extremely limited.

New Zealand Registry 129,194

WASHINGTON, Feb. 15—Motor vehicles registered in New Zealand as of Sept. 30 totaled 107,284 passenger cars and 21,910 commercial vehicles, of which 88 per cent were of American manufacture, according to figures just furnished the U. S. Department of Commerce by J. B. Foster, American automotive trade commissioner.

Tax Action Defeat Predicted by Garner

Size of Reduction and Possible Tariff Rider Seen Leading to Veto

WASHINGTON, Feb. 15—A prediction that there will be no tax legislation at this session of Congress was made this week by Rep. John N. Garner, Democratic leader of the House ways and means committee, which drafted the \$289,000,000 revenue measure and which eliminated the 3 per cent excise tax now collected on passenger cars. Following its passage by the House the measure was sent to the Senate where it is now awaiting action.

He said he based his prediction on the belief that the Democrats in the Senate will initiate a move to attach a tariff rider to the measure should the Republican Senate leaders hold up passage of the bill until after March 15, to see what receipts the March returns show. With the bill fixing \$64,000,000 more reduction than the President desired, and having attached to it the tariff rider, the Democratic leader declared that the President will veto it, thus killing not only the 3 per cent excise automotive tax relief but all relief provided for under the bill.

Overseas Club Speakers Outline Markets in S. A.

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NEW YORK, Feb. 11—Overseas Automotive Club, Inc., at its regular monthly meeting this week, was addressed by H. G. Brock, second vice-president of the National Bank of Commerce, who recently returned from a trip to Columbia. He outlined the brilliant prospects for the market in that country. Frank Kelly, export manager of the Electric Storage Battery Co., who has lately returned from the west coast of South America, spoke on market possibilities in various countries in that area.

P. A. Karl, president of the club and export manager of Brunner Mfg. Co., presided. At the business session of the meeting a number of new members were elected and the program for coming months was outlined.

Hertz Replaces Models

DETROIT, Feb. 11—The Hertz Drivurself Corp. is now engaged in the wholesale replacement of former Chevrolet models with the new 1928 line. More than 3000 Chevrolets are now in use by the Hertz organization, which controls automobile rental stations in more than 300 cities in the United States and Canada. During 1928 practically all former Chevrolet cars will be replaced by the new ones and the number also considerably augmented, according to Charles W. Litsey, operating vice-president and general manager of the Hertz organization.

Bus Specifications Ready for Approval

Proposed Uniform Requirements in All States Fix 33 Feet Maximum Length

NEW YORK, Feb. 14-The Uniform Motor Bus Specifications Code has been completed by the formulating committee and is being submitted this week for approval to all manufacturers, organizations and individuals interested. With the general support of the industry, the code will be submitted as a basis of bus regulation in all states. The formulating committee represented the National Automobile Chamber of Commerce, Society of Automotive En-Vehicle Conference gineers, Motor Committee and the Connecticut Public Utilities Commission.

Among the regulations provided in the code are a maximum length of 33 ft., maximum width of 96 in., maximum height, 14 ft. 6 in., maximum overhang beyond rear axle, 7/24ths of overall length, at least one emergency door; two separate means of applying brakes, and heavy duty rear bumpers.

Cheaper Air Transport Necessary, Says Hanshue

NEW YORK, Feb. 11—Cheaper and more dependable air transport service must be developed before general support of this means of travel will become popular, Harris M. Hanshue, president and general manager of the Western Air Express, Inc., told the Aeronautic Division of the Society of Mechanical Engineers at a meeting this week in the Engineering Societies Building.

Criticism of the government for awarding air mail contracts on a competitive basis, resulting in such low income as to prevent proper development, was voiced in a paper prepared by Capt. J. E. Whitbeck, operations manager of the Pan-American Airways. Other speakers included L. D. Seymour of the National Air Transport, Inc., and A. T. Stewart of the United States Chamber of Commerce.

New England S.A.E. Group Hears Brake Developments

BOSTON, Feb. 11—The February meeting this week of the New England Section, Society of Automotive Engineers, was given over to braketesting and recent brake developments. A. Vance Howe, of the Westinghouse Air Brake Co., gave a talk on the vacuum brake. He demonstrated one of the Westinghouse brake models explaining construction and operation. Charles F. Smith, of the Brake Synchrometer Co., and F. W. Parks of the Cowdrey Brake Testing Co., explained the methods used by their devices. Extensive discussion followed.

Cavalry Assembles Motorized Units

WASHINGTON, Feb. 15-Organization of the Army's first armored car unit as a part of the cavalry was begun this week by the War Department which had begun the assembly at Fort Myer, Virginia, of the "Provisional Platoon, 1st Armored Car Troop. Plans call for a unit in each cavalry division of the army, which will consist of aircrafts, tanks, motorized transportation, trucks, armored cars and two cars for official personnel for each division.

Experiments have been under way by the Department for several months, for an auxiliary motorized department of each division and the results have shown material increased efficiency from a transportation standpoint and also maneuverability.

Curtiss \$851,863 Income Doubles Profit in 1926

NEW YORK, Feb. 11-Curtiss Aeroplane & Motor Co., Inc., has authorized an initial semi-annual disbursement of 50 cents a share on common stock, a special dividend of 50 cents a share on preferred stock and the regular semiannual dividend of 31/2 per cent on the preferred. The initial dividend places the common stock on a \$1 per share annual basis. The special dividend on preferred stock is made in accordance with the provision of that stock entitling it to participate with the common share for share until \$42 a share has been paid. All dividends are payable March 15 to stockholders of record March 1.

Net income for 1927 is reported as \$851,863 after charges and Federal taxes, the equivalent of \$9.77 a share on the 7 per cent cumulative participating preferred stock and \$2.77 a share on the common. This compares with net income of \$413,316, or \$7.97 a share on preferred and 97 cents on the common for 1926.

Autocar Reelects Directors

PHILADELPHIA, Feb. 11—All directors were reelected at the annual meeting of the Autocar Co., Ardmore, Pa. President Page's report indicated sound business in 1927.

The annual financial statement reflected considerable progress last year in improving the financial position. Current liabilities were reduced more than 20 per sent, accomplished largely through reduction of inventories, and the ratio of current assets to liabilities was increased to more than 3 to 1. The funded debt was reduced by \$395,000.

Financial Notes

Johns-Manville Corp. 7 per cent preferred cumulative stock has been admitted for trading on the New York Stock Exchange to the value of \$7,500,000. The earnings report made public with the listing showed net earnings for the nine months ended Sept. 30, 1927, as \$4,836,205 before Federal taxes and depreciation. This is equivalent to \$4.59 on the 750,000 shares of common stock for the 9-month period and compares with \$19.42 on 250,000 shares for the entire year of 1926.

General Motors Corp. directors have declared on the common stock the regular quarterly dividend of \$1.25 per share, payable March 12 to stockholders of record Feb. 18. In addition the regular quarterly dividends were declared on the senior securities, payable May 1 to stockholders of record April 7. The corporation's cash position continues strong. Current cash and marketable securities aggregate approximately \$170,000,000.

Wright Aeronautical Corp. has increased the annual rate on common stock to \$2, as compared with the former \$1 rate, by the announcement of 50 cents per share dividend payable Feb. 29 to stockholders of record Feb. 15. Earnings for the first nine months of 1927 were \$648,616, or \$2.50 a share, as compared with \$454,923, or \$1.82 a share, for the corresponding period of 1926.

Allis-Chalmers Co. in a preliminary statement shows net profit for 1927 of \$3,-182,472 after charges and Federal taxes, equivalent after six months' dividend requirement of 7 per cent preferred stock to \$10.02 a share on the \$100 par value common stock. This compares with \$3,596,-891, or \$9.49 a share for 1926. Preferred stock was retired in the middle of 1927.

Duplex Truck Co. has authorized a cash dividend of 25 cents a share to be paid Feb. 20 to stock of record Feb. 15. All common stock of the company was converted some time ago from \$10 par to no par. There are 100,000 shares of this no par stock outstanding.

Eaton Axle & Spring Co. has voted to retire by purchase all outstanding 6 per cent preferred stock of its wholly owned subsidiary, the Eaton Spring Corp. The parent corporation will issue \$750,000 in 5-year, 5½ per cent gold notes to care for this retirement.

Willys-Overland Crossley, Ltd., British affiliate of Willys-Overland Co., shows a profit for the year 1927 after charges of £75,997, comparing with £62,463 in 1926.

Bohn Aluminum & Brass Corp. and subsidiaries report net profit for 1927 of \$1,-181,606 after all charges and taxes. This compares with \$873,744 in 1926.

Indian Forms Sales Unit

SPRINGFIELD, MASS., Feb. 14—Indian Sales Corp. has been formed as a subsidiary of the Indian Motocycle Corp. to handle the sales of the parent concern. Louis E. Bauer is president, and Frank H. Dickinson, vice-president and general manager, of the new concern. Sales thus far on 1928 models are said to show substantial gains.

Gas-Electric Drives Discussed by S.A.E.

PHILADELPHIA, Feb. 15—At a well-attended meeting of the Pennsylvania Section of the Society of Automotive Engineers this week, E. A. Atwell of the Westinghouse Electric & Mfg. Co. spoke on Desirable Characteristics of Motors and Generators for Gas-Electric Drives, while G. W. Wilson, of the General Electric Co., spoke on the related subject of Gas-Electric Taxicabs.

Mr. Atwell exhibited numerous lantern slides of generators and motors for bus drive built by his company and characteristic curves of the behavior of these units under different operating conditions. Mr. Wilson's paper related largely to the electrical equipment recently installed in a Willys-Knight Model 78 car which is in operation as a taxicab by the Philadelphia Rural Transit Co.

Allis Adds Equipment

MILWAUKEE, Feb. 11—The Allis-Chalmers Mfg. Co. is completing arrangements for a substantial increase in its tractor output in 1928, and already has acquired \$100,000 of new production machinery for this department, with more to be purchased, according to W. A. Thompson, secretary of the company. Peak production will be reached about the middle of March and orders will keep the plant busy at the increased capacity at least until August.

Indiana Truck Sales Up 60%

MARION, IND., Feb. 13—Shipments of Indiana Truck Corp. models in January showed an increase of 60 per cent over January, 1927, and followed an increase of 29.5 per cent for December over the previous December. Continued high sales are expected through the first quarter.

Coming Feature Issue of Chilton Class Journal Publications

June 23—Engineering Issue— Automotive Industries

Trade Buying Increased at 1928 National Shows

NEW YORK, Feb. 11—Trade attendance and trade buying interest at this year's national automobile shows were much stronger and more satisfactory to all exhibitors in the shop equipment section than at any previous show, according to a statement by the Motor & Accessory Manufacturers Association.

Another feature developed to a larger extent this year than heretofore was the jobber cooperation with manufacturers, whereby jobber salesmen invited their customers to attend the show and were themselves present to conduct customers around the various exhibits. Manufacturers report that buying by the trade was larger than at any previous show and that numbers of very good new contacts were made.

Gardner Schedule up 60%

ST. LOUIS, Feb. 13—Gardner Motor Co. reports shipments in January as 170 per cent higher than in the same month last year. The production schedule for the first quarter is approximately 60 per cent in excess of the same quarter last year.

Heil Names Export Company

MILWAUKEE, Feb. 13—Gaston E. Marbaix, Ltd., London, has been appointed foreign representative and distributor by the Heil Co. A full supply of Heil equipment will be carried at the company's showrooms on King William St.

Three Paris Shows Scheduled for Year

PARIS, Feb. 4 (by mail)—Three distinct automobile shows will be held in Paris this year. From Oct. 4 to 14 inclusive the Grand Palais in the Avenue des Champs Elysees will be given up to the annual display of passenger cars, automobile and bicycle accessories, tires, fuels, etc.

On Oct. 25 a second show will open in the same building for motorcycles, bicycles and all their accessories. This show will close on Nov. 4. Finally a truck show will be held from Nov. 15 to 25 inclusive. In addition to all types of commercial vehicles it will comprise machine tools, garage and workshop equipment, forges and foundries.

This is the first occasion Paris has run three distinct shows, although separate passenger car and truck shows have been held in the past. This move has been made possible by the fact that the French aviation show will be held in July, thus leaving the Grand Palais free for automobile exhibitions during the whole of October and November. The three shows are under the management of Henry Cezanne.

Eureka Makes Car Cleaner

DETROIT, Feb. 13—Eureka Vacuum Cleaner Co. is now making a vacuum cleaner designed especially for cleaning automobile upholstery, carpets, and tops. There is a special grip handle and carrying strap. The starter switch is mounted in the handle, and standard equipment includes a five-foot hose with cleaning attachments.

Philippines Register 5600

WASHINGTON, Feb. 11—Automobile registration in the Philippines as of Jan. 1, totaled 5600 compared with 4769 registered the previous year. Of the total registrations at the present time, 3828 are passenger cars, 1308 trucks, and 464 buses.

Calendar of Coming Events

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		SH	lows			
All	Western	Road S	Show,	Los	Angele	s,
					March	
Am	erican El	ectric F	Railway	y Ass	'n, Put) -
	lic Audit	orium,	Clevel	and	. Sept.	22-28
Au	tomotive	Equip	ment	Ass	ociation	n,
	Coliseum	. Chica	go		Oct.	22-27
Ber	lin				Nov.	8-18
*Bo	ston, Me	chanics	Bldg.		March	10-17
Bru	ssels				Dec.	8-19
Cor	enhagen			. Feb.	23-Ma	rch 4
Gen	ieva				March	16-25
Hel	singfors.	Finland			Feb.	19-26
Inte	ernationa	Aircr	aft S	how.	Berlin	n.
			1	March	23-Ap	ril 11
Lay	ybach, Ju	goslavia			June	2-11
Lei	pzig, tru	eks only	7		March	4-14
Lill	e, France				Apri	1 6-22
LOT	don, pas	senger o	ars		Oct.	11-20
Par	ris				Oct.	4-14
Pra	gue				Sep	t. 1-5
Rio	de Jane	iro			May	3-13
Sal	on, Auto	mobile	Salon.	Inc.	. Palac	e
0000	Hotel, S	an Fran	cisco.	.Feb.	25-Ma	rch :
Tu	nis, Tuni	sia		. Ap	ril 27-N	fav (
Un	ited Stat	es Good	Road	ls Sh	ow. De	8.9
O III	Moines	00 0000		Ma	v 28-J	une :
7.95	greb, Jug	oslavia		An	ril 29-1	May (
22006		o Date vale				

* Will have special shop equipment exhibit.

CONVENTIONS American Electric Railway Ass'n., Public Auditorium, Cleveland....Sept. 22-28

American Gear Manufacturers Asso-

National Safety Council, Mid-West Safety Congress, Stevens Hotel, Chicago
National Safety Council, Central States Safety Congress, Kansas City April 23-25
National Safety Council, National Congress, New YorkOct. 1-5
Society of Automotive Engineers, Summer Meeting, Chateau Frontenac, QuebecJune 26-29
United States Good Roads Association and Bankhead National Highway Association, Des Moines. May 28-June 1

RACES
Atlantic City
BelgiumAug. 12
Daytona Beach, Fla., series of stock car races and world's speed trials, Feb. 15-23
DetroitJune 3
GermanyJuly 15
Great BritainSept. 22
IndianapolisMay 30
ItalySept. 2
SpainJuly 29